CURTIS'S

BOTANICAL MAGAZINE,

COMPRISING THE

Plants of the Royal Gardens of Kew

AND

OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;

WITH SUITABLE DESCRIPTIONS;

BY

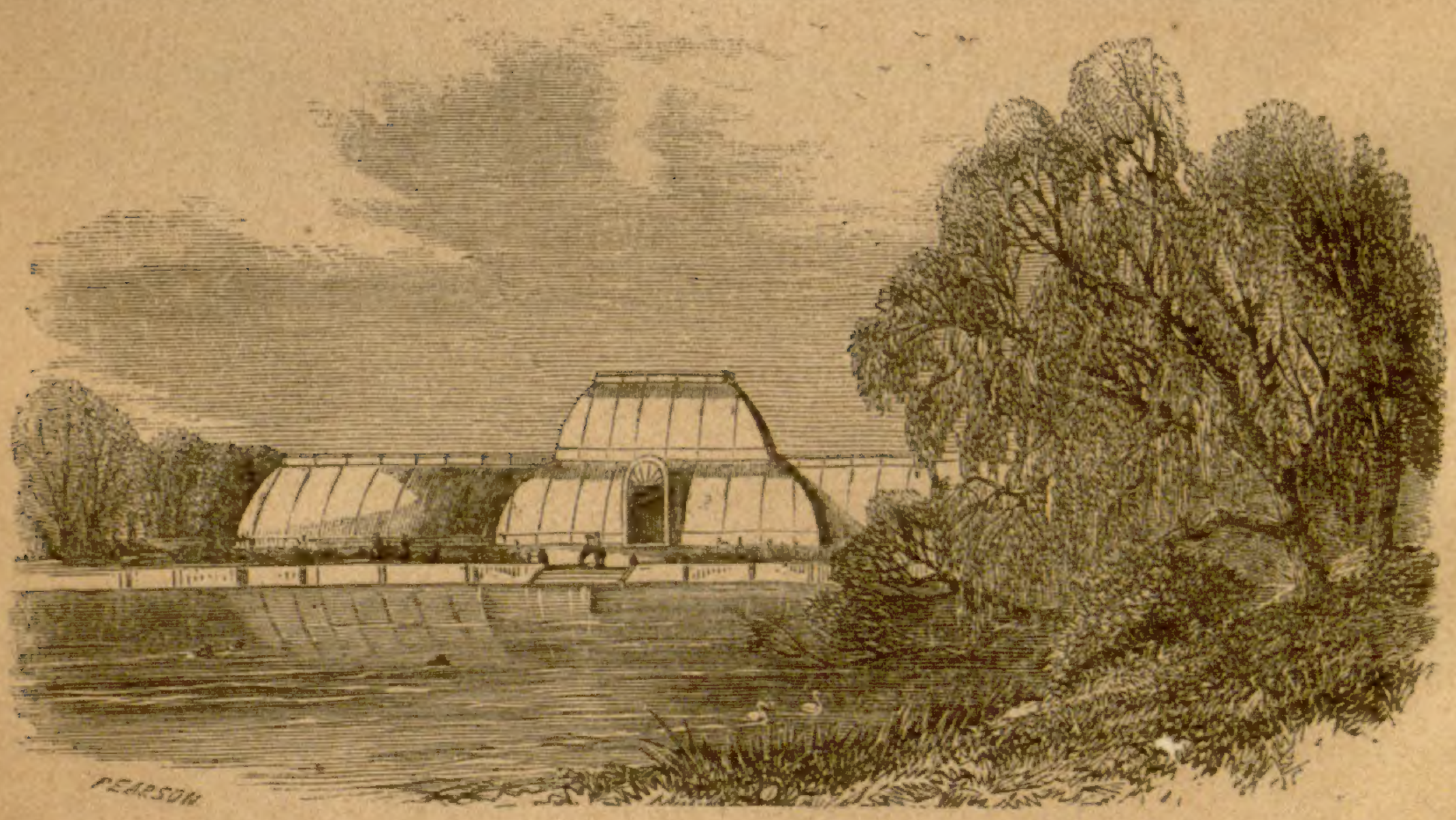
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VOL. XXV.

OF THE THIRD SERIES;

(Or Vol. XCV. of the Whole Work.)



"Fair pledges of a fruitful tree,
Why do ye fall so fast?
Your date is not so past;
But you may stay yet here awhile,
To blush and gently smile,
And go at last."

R. Herrick.

LONDON:

L. REEVE & CO., 5, HENRIETTA STREET, COVENT GARDEN.

1869.

Mo. Bot. Garden,
1897.


SHOUT
SHARE
IT

LONDON :
SAVILL, EDWARDS AND CO., PRINTERS, CHANDOS STREET, COVENT GARDEN.

TO

WALTER FITCH, ESQ., F.L.S.,

The accomplished Artist and Lithographer of upwards of Two Thousand Five Hundred Plates already Published of the "Botanical Magazine," this volume is dedicated

By his faithful

And sincere friend,

JOS. D. HOOKER.

Royal Gardens, Kew,
Dec. 1, 1869.



1

W. Fitch, del et lith.

Vincent Brooks, Day & Son Imp.

Tab. 5748.

BRASSIA Lawrenciana, *var.* longissima.

Mr. Lawrence's Brassia, long-sepaled variety.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Perianthium explanatum. *Sepala* et *petala* angusta, libera, æqualia, his nunc minoribus. *Labellum* planum, indivisum, ecalcaratum, cum columna continuum, basi bicristatum. *Columna* nana, libera, aptera. *Anthera* 1-locularis. *Pollinia* 2, postice sulcata; caudicula brevi; glandula crassa.—Herbæ *epiphyticæ*, *acaules*, *pseudobulbosæ*, *Americæ tropicæ incolæ*. Folia *coriacea*. Scapi *radicales*, *basi bracteati*. Flores *speciosi*, *spicati*. *Lindl.*

Brassia *Lawrenciana;* sepalis lateralibus elongatis, labello oblongo apice lanceolato subundulato, callo baseos simplici canaliculato truncato pubescente. *Lindl.*

Brassia Lawrenciana. *Lindl. in Bot. Reg. v.* 27. *t.* 18.

Var. *longissima*, sepalis longissime caudatis, labello oblongo-lanceolato subtiliter aristato-acuminato ima basi abrupte excavato. *Reichb. fil. in Gard. Chron.* 1868, *p.* 1313.

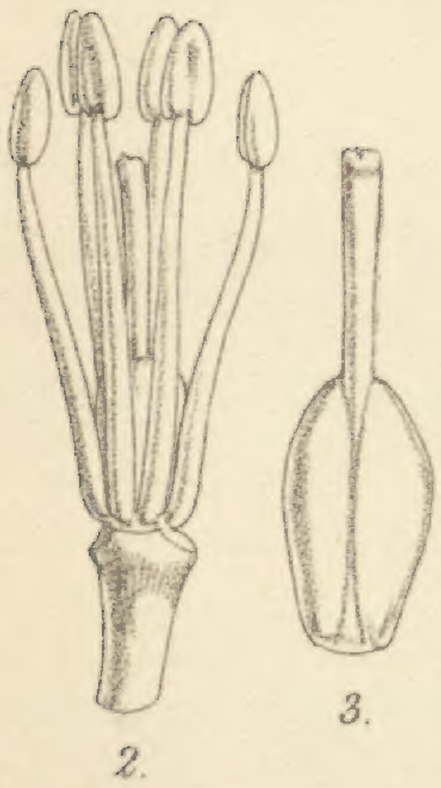
This magnificent Orchid is a native of Costa Rica, and was flowered last September by Wentworth Buller, Esq., F.L.S., of Strete Raleigh, Exeter, who informs me that one spike bore no less than thirteen fragrant flowers, of the size and colour represented in our Plate.

When figuring the original *Brassia Lawrenciana*, Dr. Lindley well remarked that "the species of this genus are difficult to distinguish from one another, especially those which have the lateral sepals much lengthened out." The flowers of the original state are not half so large as those of our plants, the lateral sepals measuring barely three inches, whilst they are fully seven inches long in the var. *longissima;* the colours, too, are considerably different, a deep orange-yellow, with few large, broad, purple blotches in the variety, but a pale golden-yellow, with more, much smaller, paler, redder bars in the original. In more important characters, however, the two plants agree so closely, that I have followed

Professor H. Reichenbach in referring the splendid plant here figured to its comparatively pigmy and pale-flowered predecessor, described by Dr. Lindley. It should further be stated that Mr. Lawrence's plant is said to be a native of Brazil, whilst Mr. Wentworth Buller's comes from Costa Rica; but in the early days of Orchidology, localities and habitats were not much attended to.

Descr. *Pseudobulbs* three inches and a half long, oblong in outline, much compressed, with very acute thin edges, quite smooth, even, and bright green. *Leaves* six to eight inches long, oblong-lanceolate, coriaceous, very dark green. *Bracts* at the base of the pseudobulb, often leafy. *Spikes* from the base of the peduncle, two feet long, nearly horizontal, drooping at the apex, many-flowered; bracteoles short and small. *Ovary* one inch long, narrowed into a stout pedicel. *Sepals* very long and slender, a quarter of an inch broad at the base, lateral upwards of seven inches long, dark orange-yellow, with a few large, deep red-purple blotches towards the base. *Petals* erect, similar to the sepals, and as broad, but much shorter, two to three inches long. *Lip* three inches long, ovate-lanceolate, acuminate, pale yellow, with a ring of purple spots at the base, surrounding two raised parallel ridges that are slightly pubescent and terminate in tubercles. Edges of *column* pubescent.—*J. D. H.*

Fig. 1. Base of lip and column:—*magnified.*



2.

3.



1.

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Tab. 5749.

IBERIDELLA ROTUNDIFOLIA.

Round-leaved Iberidella.

Nat. Ord. Cruciferæ.—Tetradynamia Siliculosa.

Gen. Char. *Sepala* erecta, basi æqualia. *Petala* æqualia. *Stamina* libera, edentula. *Siliqua* compressa, oblonga v. lanceolata, acuta v. acuminata; valvis carinatis v. subalatis; septo angusto membranaceo; stylo elongato, stigmate emarginato. *Semina* in loculis 2–6, oblonga, immarginata; cotyledones accumbentes, interdum obliquæ.—Suffrutices *v.* herbæ *sæpius basi ramosi, glabri, montium* Europæ australis, Syriæ, Persiæ, *et* Asiæ Minoris *incolæ.* Folia *alterna et opposita, integra.* Flores *racemosi, albi lilacini v. rosei.*

Iberidella *rotundifolia;* humilis, glaberrima, radice elongata, ramis confertis ascendentibus foliosis, foliis oppositis parvis carnosulis obovatis v. obovato-rotundatis obtusis integerrimis v. obscure sinuato-dentatis radicalibus petiolatis caulinis sessilibus basi obtusis v. auriculatis, racemis oblongis densifloris, pedicellis gracilibus patentibus, petalis lilacinis, siliquis obovato-oblongis acuminatis stylo persistente terminatis, valvis carinatis, loculis 2-spermis.

Thlaspi rotundifolium. *Gaud. Fl. Helvet. v.* 4. *p.* 219.

Thlaspi cepeæfolium. *Koch, Fl. Germ. ed.* 2. *p.* 75.

Thlaspi corymbosum. *Reichb. Ic. Fl. Germ. v.* 2. *p.* 3. *t.* 6. *f.* 4224.

Hutchinsia rotundifolia. *R. Brown in Hort. Kew. ed.* 2. *v.* 4. *p.* 82. *DC. Prodr. v.* 1. *p.* 177.

Hutchinsia cepeæfolia. *DC. Syst. v.* 2. *p.* 386. *Prod. v.* 1. *p.* 177.

Hutchinsia corymbosa. *J. Gay, in Syllog. Ratisb. v.* 1. *p.* 169.

Iberis rotundifolia. *Linn. Sp. Pl. n.* 905.

Iberis cepeæfolia. *Wulf. in Jacq. Misc. v.* 2. *p.* 28. *f.* 1.

Noccea cepeæfolia. *Reichb. Fl. Excurs. p.* 663.

A lovely little rock-plant, native chiefly of shingly calcareous soils in the Alps of Europe, from Mont Cenis to Carinthia, at elevations of 6–9000 feet. It flowered in the Royal Gardens, Kew, in April last, and at the same period in Messrs. Backhouse's establishment at York; the Kew plants were received from the Zurich Botanic Gardens; Messrs. Backhouse's were imported from the Monte Rosa

Alps. The plant is variable in habit, in the colour of the foliage, and its glaucousness; the Zurich variety is denser, deeper green, and has stouter racemes of more numerous flowers than the Monte Rosa ones, the lower leaves of which are of a lovely glaucous hue, variegated with red-purple, and the inflorescence laxer and fewer flowered.

The species has been transferred from genus to genus until the late settlement of the *Thlaspideous* crucifers in the 'Genera Plantarum.' There can, I think, be no doubt that it is a close ally of the more Eastern forms that constitute the genus *Iberidella*, which differ from *Thlaspi* in the acute pod, from *Iberis* in the equal petals, and from *Hutchinsia* in the long style and foliage.

Descr. A densely-tufted, more or less glaucous-green, glabrous herb, with a long perennial tap-root, that burrows deep amongst stones. *Stems* three to six inches long, ascending. *Leaves* mostly opposite, small, fleshy, one-third to three-quarters of an inch long; radical petioled, broadly obovate or almost orbicular, quite entire or obscurely sinuate-toothed; cauline sessile, obtuse or auricled at the base. *Flowers* half an inch in diameter, in cylindric, crowded, erect racemes, pale lilac, with a yellow eye; pedicels horizontal.—*J. D. H.*

Fig. 1. Flower. 2. Ditto, with the calyx and petals removed. 3. Ovary:—*all magnified.*

W. Fitch del et lith

Vincent Brocks Day & Son, Imp

Tab. 5750.

TACSONIA eriantha.

Woolly-flowered Tacsonia.

Nat. Ord. Passifloreæ.—Pentandria Trigynia.

Gen. Char. (*Vide supra*, Tab. 5571.)

Tacsonia *eriantha;* caule glabrato, foliis latis profunde 3-lobis 5-nervibus, lobis ovatis calloso-serratis supra glabris subtus niveo-tomentosis venis glabratis, stipulis dimidiato-orbiculatis aristato-dentatis, bracteis connatis venosis venis viridibus calyceque albo-lanatis, calycis tubo elongato, lobis petalisque consimilibus oblongis apice rotundatis roseis, coronis brevissimis exteriore carnosulo dentato intermedio integro, interiore crenulato.

Tacsonia eriantha. *Benth. Pl. Hartweg.* 183. *Walp. Rep. v.* 5. 773.

A noble plant, resembling in habit and colour of flower the well-known *T. mollissima* (Tab. nostr. 4187*), from which, however, it differs conspicuously in the white undersurface of the foliage and long bracts; these species, and others not yet introduced, are natives of the temperate Andes of Ecuador and New Granada, and are cultivated in the Gardens of Quito, whence they have been introduced into this country. The one here figured was sent by Professor Jameson, of that city, to Isaac Anderson Henry, Esq., F.L.S., of Hay Lodge, Edinburgh, with whom it flowered last July. Professor Jameson describes it as a native of the Volcano of Pichincha, growing at the upper boundary of the forest regions, 11–13,000 feet above the sea, in a cold and foggy climate. As a greenhouse or conservatory climber, it rivals the *T. mollissima*, and is as free a flowerer.

Descr. A late woody climber. *Stem* nearly glabrous, angular. *Leaves* on stout glandular petioles an inch and a half to two inches long; blade four to six inches in diameter, much broader than long, deeply three-lobed, subcordate at the base, glabrous above, covered below except the

* I doubt much this being the true *mollissima*, H. B. K., which has densely tomentose stems; it more resembles *T. Quitensis*, Benth.

nerves with snow-white cottony tomentum; lobes serrate. *Stipules* semiorbicular, coriaceous, convex, acutely toothed, with a spinous process at the base. *Peduncles* solitary, stout, one-flowered, shorter than the petioles. *Bracts* connate into a three-lobed tube one inch long, covered as well as the calyx-tube with white down, the veins conspicuous and green. *Calyx-tube* three inches long by half an inch in diameter, cylindric, lobes an inch and a half long, oblong, rounded at the point, pink, with a green midrib at the back, which is produced into a sharp point. *Petals* similar to the calyx-lobes. *Corona* of three short series, outer an irregularly lobed ring, intermediate an almost entire ring, inner tubular, embracing the base of the stamens, crenulate. *Ovary* villous.—*J. D. H.*

Fig. 1. Portion of calyx, showing the outer and middle coronas:—*magnified.*



W. Fitch, del et lith.

Vincent Brooks Day & Son Imp

Tab. 5751.

STAPELIA Hystrix.

Bristly-flowered Stapelia.

Nat. Ord. Asclepiadeæ.—Gynandria Pentandria.

Gen. Char. (*Vide supra*, Tab. 5692.)

Stapelia *Hystrix;* glauco-virescens, ramis ramulisque pentagonis, angulis rotundatis dentatis, dentibus patentibus corneis acutis, pedunculis solitariis v. aggregatis unifloris roseis ex parte inferiore ramulorum enatis, corolla patentissima 5-fida, lobis ovatis acuminatis, supra sulphureis striis brevibus interruptis transversis rufis et processubus subulatis erectis diaphanis apicibus rufescentibus densissime obtectis, corona exteriore depressa lobata, cornubus conniventibus appendici crasso horizontali oblongo obtuso terminatis, appendicibus discum obtuse 5-lobum efformantibus.

This is an entirely new species, in so far as I can ascertain, of the long neglected but interesting and beautiful genus *Stapelia*. At first sight it resembles so closely the *S. glanduliflora* of Masson (cultivated in Kew in 1796, but now lost to the country), that it was taken for that plant; but it differs entirely in the five-angled stems, horizontal spines, in the larger flowers, in the subulate processes (not clavate hairs) that cover the corolla-lobes, and in the curious horizontal appendages that crown the staminal processes, and together form a five-rayed disk in the centre of the flower. It is a native of Eastern South Africa, and was sent to the Royal Gardens by Mr. M'Ken, the indefatigable and able Superintendent of the Natal Botanic Gardens.

Descr. A small, tufted, pale glaucous-green species, four to six inches high, and much branched. *Branches* half an inch to three-quarters of an inch in diameter, five-angled; angles obtuse, tuberculate, toothed, tubercles conical, teeth horny, pointing outwards. *Flowers* two to three together from near the bases of the branches, bracts subulate; peduncles pink. *Sepals* small, lanceolate. *Corolla* one inch in diameter, pale sulphur-coloured, internally marked with innu-

merable small, short, transverse bars of dark purple, lobes ovate acuminate, spreading and recurved, densely covered with erect, diaphanous, subulate, fleshy processes, tipped with purple; interior of tube smooth. *Outer corona* depressed, expanded, lobulate, with small tubercles between each stamen. *Staminal processes* erect, conniving, with horizontal terminal appendages that are thick and ovoid, flat above and convex below; these together form a five-rayed disk in the centre of the flower.—*J. D. H.*

Fig. 1. Vertical section of tube of corolla, showing the corona and staminal processes:—*magnified.*

W. Fitch del. et lith.

Vincent Brooks Day & Son Imp.

Tab. 5752.

THIBAUDIA ACUMINATA.

Sharp-leaved Thibaudia.

Nat. Ord. Ericeæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4303.)

Thibaudia (Proclesia) *acuminata;* fruticosa, glabra v. ramulis et inflorescentia puberulis, foliis brevissime petiolatis coriaceis ovatis v. ovato-lanceolatis longe acuminatis v. apice caudatis integerrimis 3–5-plinerviis coriaceis subtus nigro-punctulatis, racemis brevibus subterminalibus, bracteis amplis coloratis deciduis, calycis limbo 5-dentato, corolla elongato-urceolata 5-dentata, filamentis glaberrimis alternis paulo minoribus.

Thibaudia acuminata. *Hook. Ic. Pl. t.* 111.

Thibaudia Hookeri. *Walp. Rep. v.* 6. *p.* 412.

Proclesia acuminata et P. Benthamiana. *Klotzsch in Linnæa, v.* 24. *p.* 34.

A very distinct, showy, free-flowering shrub, a native of the Andes of Columbia and Ecuador, whence we have many specimens collected by Jameson, Hartweg, and others. It was introduced by Mr. Pearce when collecting for Messrs. Veitch, by whom it was flowered in November last.

Being a native of the loftier regions of the Andes, from 8–10,000 feet, it is well suited to a conservatory temperature, where its handsome green foliage, purple-tinted young leaves, and brilliant red flowers, which are produced in great abundance, render it a very attractive plant. Colonel Hall, its discoverer, describes the fruit as fragrant and eatable. Professor Jameson observes that around the suburbs of Quito, where it abounds, it flowers throughout the year.

Descr. A branching, leafy, evergreen shrub, with pendulous branches, that are glabrous or slightly pubescent. *Leaves* subdistichous, on very short stout petioles, two to three inches long, ovate or oblong-lanceolate, rounded at the base, with long acuminate or caudate points, three to five-nerved towards the base, glabrous and dark green above, below

paler, with a few scattered, minute, black, glandular dots. *Flowers* in terminal and axillary short racemes, covered when in bud by large, imbricating, concave, scarlet, deciduous, oblong, obtuse, coriaceous bracts, the longest nearly half an inch long. *Pedicels* short. *Calyx-tube* globose, limb five-toothed. *Corolla* two-thirds of an inch long, glabrous, tubular, but ventricose below, shortly five-toothed, bright red, with green tips and lobes. *Stamens* included, filaments very short, curved, glabrous; anthers slender, cells with long terminal slits. *Style* slender, stigma truncate.—*J. D. H.*

Fig. 1. Flower. 2. Ovary. 3. Stamens:—*all magnified.*



Tab. 5753.

CŒLOGYNE (Pleione) Reichenbachiana.

Dr. Reichenbach's Pleione.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide suprà*, Tab. 5674.)

Cœlogyne (Pleione) *Reichenbachiana*; pseudobulbo magno lagenæformi supra medium tumido longitudinaliter lobato, apice abrupte conico, floribus amplis, sepalis petalisque anguste oblongis roseis, labello albo disco roseo maculato mento brevissimo, lobis lateralibus brevibus terminali dilatato ciliato-dentato 2-fido, disco 3-carinato carinis medio serie papillarum ornatis, columna gracili apice 3-lobo, lobis lateralibus emarginatis intermedio dentato, rostello 3-lobo.

Cœlogyne (Pleione) *Reichenbachiana*. *T. Moore in Gard. Chron.* 1868, *p.* 1210.

This is decidedly the finest species of the *Pleione* group of *Cœlogyne* known; it was discovered by our excellent and indefatigable correspondent Col. Benson, of Rangoon, on the mountains of Arracan, I believe (but have no certain information), and transmitted by him to the Royal Gardens and to Messrs. Veitch's establishment, in both which places it flowered simultaneously in November of last year. It was first described in the 'Gardeners' Chronicle' under the above name, thus paying a richly deserved compliment to a foreigner who has ever lent a helping hand to all classes of the British cultivators of his favourite order of plants. As a species it is very distinct from any other, by the great size, peculiar shape, lobing, and reticulated coloration of the pseudobulb, in which respect it most resembles *C. lagenaria* (Tab. nostr. 5370). The colouring of the lip and form of the lobes of the top of the column are variable.

Descr. *Pseudobulbs* crowded, two inches and a half long,

by one inch and a half in diameter, pitcher-shaped, but suddenly contracted into a blunt conical apex, constricted below the middle, rounded at the base, deeply longitudinally 6–8-lobed, the lobes semicylindric and forming rounded prominences at the broadest part; very dark green, reticulated with dark brown. *Leaves* not seen. *Scapes* one to two inches high, closely sheathed; lower sheaths short, inflated, green spotted with brown, uppermost long, lax, membranous. *Ovary* slender, one inch long. *Flowers* two to two inches and a half across. *Sepals* narrow-oblong, pale rose-coloured, with white edges. *Petals* narrower and paler. *Lip* nearly white, with a very short gibbosity (mentum) at the base; lateral lobes convolute, gradually dilating into the open, reflexed, suborbicular, 2-fid middle lobe, which is white, with a few pale-red purple spots, and has ciliate toothed margins; disc of lip streaked with purple, and bearing three slender crests along the middle, which are shortly produced on to the middle lobe, each crested with a series of short flattened prominent papillæ. *Column* very slender, apex 3-lobed, lateral lobes notched, middle obtusely irregularly toothed. *Rostellum* 3-lobed.—*J. D. H.*

Fig. 1. Column. 2. Lip:—*both magnified.*



W. Fitch del et lith

Vincent Brooks Day & Son Imp

Tab. 5754.

DELOSTOMA DENTATUM.

Toothed-leaved Delostoma.

Nat. Ord. Bignoniaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx coriaceus, alabastro obovoideus, clausus acuminatus, adultus 2–3-labiatus. *Corolla* tubulosa, plus minusve incurva, limbo patente 5-lobo sub-2-labiato. *Stamina* 4 fertilia, quinto setiformi v. 0, didynama; antherarum loculi subdiscreti. *Ovarium* 2-loculare; stylus filiformis, stigmate 2-lamellato. *Capsula* oblonga v. lineari-oblonga, compresso 4-gona, utrinque attenuata, valvis cymbiformibus lævibus, septo valvis contrario (parallelo, *DC.*), polysperma. *Semina* in loculis pluriseriata, compressissima, late alata.—Frutices Peruviæ *et* Novæ Granadæ *incolæ*. Folia *opposita, petiolata, simplicia, elliptico-oblonga*. Racemi *inter ramulos oppositos orti, pauciflori, bracteis* 0 *v. minutis*. Flores *conspicui*. —Bureau, *Monog. Bignon. p.* 51, *t.* 16. Codazzia, *Karst. et Trian. in Linnæa, v.* 28. *p.* 426.

Delostoma *dentatum*, parce puberulum, foliis amplis oblongis subacutis obtuse serratis, calycis tubo campanulato 5-gono angulis superne nodoso-incrassatis lobis 3 parvis triangulari-ovatis aristato-acuminatis, corolla alba v. pallide rosea glaberrima tubo incurvo, staminibus 4 cum quinto setiformi, stylo pubescente.

Delostoma dentatum. *Don in Ed. Phil. Journ.* 1823, *p.* 263. *Gen. Syst. Gard. v.* 4. *p.* 228. *DC. Prodr. v.* 9. *p.* 198.

A remarkably beautiful plant, with the habit of a Gesneria, raised from seeds sent by Professor Jameson, of Quito, to that able and intelligent horticulturalist Isaac Anderson Henry, Esq., of Hay Lodge, Edinburgh, with whom it flowered in October of last year. It is a native of Gualesca, near Cuenca, in Ecuador. The genus consists of three or four other species, none of which have ever been introduced, and the present is the only one hitherto figured in botanical works.

Descr. A small shrub of robust habit, sparsely pubescent on the branchlets and leaves below. *Branches* stout, terete.

Leaves opposite, simple, petioled, four to five inches long by three to four inches broad, broadly oblong, subacute, obtuse at the base, coarsely bluntly serrate, bright green on both surfaces, nerve very strong below. *Raceme* arising from the forks of the upper branches, two to three inches long, 3–4-flowered; peduncles short, with minute bracts at the base. *Calyx* a quarter of an inch long; tube campanulate, 5-ribbed above, the ribs produced into tubercles at the apex; limb small, of three triangular-ovate subaristate conniving lobes. *Corolla* one inch and a half long, subcampanulate; limb nearly two inches in diameter, white suffused with pale rose-colour; tube incurved; lobes five, nearly equal, spreading, orbicular. *Stamens* four, with a rudimentary fifth; filaments swollen and pubescent at the base; anther-cells contiguous, parallel. *Ovary* sunk in a fleshy cup-shaped disc; style hairy; stigmas small, unequal.—*J. D. H.*

Fig. 1. Base of corolla and stamens. 2. Anther. 3. Calyx, style, and stigmas:—*all magnified.*



W Fitch del et lith

Vincent Brooks Day & Son, Imp.

Tab. 5755.

CAMPTOPUS Mannii.

West-African Camptopus.

Nat. Ord. Rubiaceæ. Tribe Psychotrieæ.—Pentandria Monogynia.

Gen. Char. Flores involucrati, hermaphroditi. *Calycis* tubus brevis, obconicus, limbus ultra ovarium productus subcylindricus 5–6-fidus, lobis lanceolatis erectis ciliatis. *Corolla* tubulosa, coriacea, extus glabra, tubo paulo ampliato limbo calycis duplo longiore, fauce intus ad insertionem staminum oreque villosis, lobis 5 ovatis valvatis. *Stamina* 5, fauci corollæ inserta, filamentis subulatis; antheræ exsertæ, dorso supra medium affixæ, lineares, obtusæ, basi breviter 2-lobæ. *Discus* epigynus magnus, globosus, apice depresso. *Ovarium* 3–4-loculare; stylus brevis validus, stigmate 3–4-lobo lobis erectis oblongis intus papillosis; ovula in loculis solitaria, erecta. *Fructus* * * *.—Frutex *glaberrimus*, Africæ occidentalis *tropicæ incola, ramis crassis cylindricis lævibus.* Folia *ampla, opposita, breve crasse petiolata, obovata, coriacea, costa subtus crassa, nervis divergentibus.* Stipulæ *magnæ, 2-fidæ, foliaceæ, deciduæ.* Pedunculi *rubri, solitarii, axillares, longissimi, cernui, apice erecti floriferi, capitulum compositum multiflorum involucrato-bracteatum gerentes, bracteis orbicularibus concavis rubris nitidis.* Flores *albi, breviter exserti, densissime congesti.*

Camptopus *Mannii.*

This very singular stove shrub was discovered at Fernando Po by Mr. Mann during his dangerous botanical journeys on the west coast of tropical Africa in the service of the Royal Gardens, and was introduced by him in 1863. It has also been collected at Old Calabar, from the coast opposite Fernando Po, by a correspondent of Dr. Balfour, of Edinburgh, to whom the Hookerian Herbarium is indebted for a dried specimen. As an ornamental hothouse plant it is conspicuous for the size and beauty of the deep-green foliage with a red midrib beneath, and the brilliant coloured bracts and pedunccles, the latter of which, after reaching a foot in length, curve outwards and downward beyond the foliage and become suddenly thickened as they bend upwards at the tip and support the scarlet and white ball of flowers, pre-

sen ting a most graceful and striking feature. It was received at Kew in 1864, and flowered, for the first time, in November of last year. As a genus it is closely allied to *Cephaëlis*, differing in habit, in the 3–4-celled ovary, and exserted stamens.

Descr. A *shrub* attaining fifteen feet in height. *Branches* stout, cylindrical, green. *Leaves* opposite, on petioles two to three inches long, obovate or obovate-lanceolate, acute, narrowed into the petiole, quite glabrous, coriaceous; midrib stout, red below, nerves diverging. *Stipules* large, leafy, oblong, 2-fid, united at the pubescent base within the petioles, deciduous above the base. *Peduncle* axillary, eight to twelve inches long, solitary, scarlet, curving outwards, then downwards, thickened and ascending at the apex, and bearing an erect subglobose compound head, two to five inches in diameter, of white flowers clothed with numerous general and partial orbicular concave shining involucral bracts. *Flowers* densely crowded, white, shortly exserted, almost sessile; bracts spathulate. *Calyx*-tube very short, limb cylindric, 5–6-cleft, segments ciliate. *Corolla*-tube white, coriaceous, one-half to three-quarters of an inch long, lobes spreading, throat and mouth villous. *Stamens* exserted. *Disc* very large, almost globose. *Ovary* 3–4-celled; style stout; stigma 3- or 4-lobed. —*J. D. H.*

Fig. 1. Flower. 2. Corolla laid open. 3. Stamen. 4. Calyx, style, and stigma. 5. Ovary, disc, and base of style. 6. Vertical section of ditto. 7. Transverse section of ovary:—*all magnified.*

W. Fitch del et lith.

Vincent Brooks Day & Son

Tab. 5756.

ONCIDIUM xanthodon.

Golden-toothed Oncidium.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide suprà*, Tab. 4148.)

Oncidium (Cyrtochilum) *xanthodon*; pseudobulbo elongato ovoideo compresso lævi, folio anguste obovato-oblongo coriaceo, scapo volubili longissimo, panicula ampla ramosa flexuosa multiflora, bracteis ovato-lanceolatis spathaceis ovario elongato multo brevioribus, perianthii lobis undulato-crispatis brunneis aureo-marginatis et crenulatis, sepalis petalisque unguiculatis obovato-rotundatis his paulo minoribus, labello parvo sessili basi subhastata fornicata, callis tuberculiformibus, lamina anguste obovata unguiculata recurva, columna brevi sigmoidea, alis minutis.

Oncidium (§ Cyrtochilum) xanthodon. *H. G. Reichenbach fil. in Gard. Chron.* 1868, *p.* 1338.

A very remarkable species, described by Dr. Reichenbach as being allied to *O. serratum*, conspicuous for its large panicle and numerous flowers, and the chocolate-brown colour of the reflexed and wavy perianth-segments, which are edged with a golden band, crenate and almost crisped; it was imported by Messrs. Backhouse, of York, from the eastern parts of the Cordillera of Ecuador. Four plants of it flowered simultaneously in November of last year with Messrs. Backhouse, who inform me that the flowering stems were six to eight feet long and twined round every available object with which they came in contact.

Descr. *Pseudobulb* five inches long, narrow-ovoid, much compressed, perfectly smooth, bright green, with a few sheathing leaves at its base and one at its apex. *Leaves* one and a half to two feet long, two to two and a half inches broad above the middle, narrow linear-obovate, acute, bright green, quite smooth. *Scape* very slender, six to eight feet long, much branched, twining, greenish-brown; sheaths ap-

pressed. *Panicle* much branched; rachis and branches slender, flexuous; bracts ovate-lanceolate, nearly half an inch long. *Ovary* and *pedicel* together slender, nearly two inches long. *Flowers* one inch and a half in diameter, of a rich chocolate-brown colour, with golden crisped and crenate edges. *Petals* and *sepals* very similar, waved and reflexed, clawed; blade broadly ovate, rounded or almost hastate at the base. *Lip* smaller and narrower than the petals; basal portion irregularly quadrate, sessile, two-lobed at the apex; disc very prominent, with several tubercular calli which are yellow, shining, and viscid; blade spathulate, recurved, acute, of the same colour as the sepals and petals. *Column* short, curved like the letter *s*, with small lateral wings at the apex.—*J. D. H.*

Fig. 1. Lip and column :—*magnified.*



W. Fitch, del et lith

Vincent Brooks Day & Son Imp

Tab. 5757.

COBÆA PENDULIFLORA.

Pendulousflowered Cobæa.

Nat. Ord. Polemoniaceæ.—Pentandria Monogynia.

Gen. Char. Calyx late campanulatus, foliaceus, 5-fidus, sepalorum marginibus induplicatim connatis 5-alatus. *Corolla* campanulata, tubo brevi, fauce ampla elongata; limbi lobi breves v. elongati, nunc loriformes et penduli. *Stamina* 5, exserta, filamentis elongatis alabastro contortis, basi villosis. *Discus* maximus, carnosus, 5-lobus. *Ovarium* 3-loculare; stylus gracilis, stigmate 3-lobo; ovula pauca v. plurima. *Capsula* 3-gona, 3-locularis, 3-valvis, oligo- v. polysperma. *Semina* 2-seriatim adscendentia, imbricata, compressa, in alam expansa.—Frutices Mexici, Novæ Granadæ *et* Americæ centralis *incolæ*. Folia *alterna, pinnatisecta, in cirrhum desinentia, foliolis* 2–3-*jugis infimis stipulæformibus*. Pedunculi *axillares*, 1-*flori, basi foliaceo-bracteati*.

Cobæa *penduliflora*; gracilis, glaberrima, foliolis petiolulatis lineari-oblongis acutis v. acuminatis basi obtusis v. subcordatis, sepalis lineari-oblongis acutis, corollæ campanulatæ lobis loriformibus pendulis undulatis apice 2-fidis, filamentis longissimis inter lobos corollæ longe exsertis horizontaliter patentibus, stylo longissimo stigmatibus filiformibus.

Rosenbergia penduliflora. *Karsten, Fl. Colomb. p.* 27, *t.* 14.

This very singular and graceful climber at first sight so little resembles the common *Cobæa* of our greenhouses that it is difficult to suppose it belongs to the same genus; but a reference to the *C. macrostema*, Pavon (Tab. nostr. 3780) at once shows how simple the transition is from one to the other, the chief differences being in the immensely long corolla-lobes of *C. penduliflora* and the much exserted stamens of this and of *C. macrostema*, which project horizontally between the corolla-lobes, forming five rays, much as in *Gloriosa*—an arrangement doubtless intended to secure cross-impregnation by removing the anthers to the furthest distance from the stigma. *C. penduliflora* is a native of the mountains of Caraccas, at an elevation of 6000 feet, where it was dis-

covered by Fendler, and published by Karsten, who has given an excellent figure of it, adopting the generic name of *Rosenbergia*, which was originally applied by Œrsted for an allied Central-American species.

The seeds were sent to the Royal Gardens by Monsieur A. Ernst, of Caraccas, a zealous correspondent of this establishment; and the plants flowered in the cooler end of the Palm House in December 1868. It has also been found near Tarapoto, in Eastern Peru, by Spruce.

DESCR. A slender, glabrous, pale-green climber. *Leaves* three to five inches long, pale green and membranous; leaflets in two pairs, one and a half to two inches long, petiolulate, narrow oblong, acute or acuminate, obtuse or rounded at the base; petiole ending in a long, branched, filiform, tortuous tendril. *Peduncles* solitary, axillary, pendulous, eight to ten inches long, naked, 1-flowered. *Flower* four to five inches long from the base of the calyx to the tips of the corolla-lobes. *Calyx-tube* dilated, lobed and intruse at the base; segments one and a half inch long, broadly linear, acuminate, green. *Corolla* green, campanulate; tube one inch, and lobes three to four inches long, the latter strap-shaped, not one-quarter of an inch broad, pendulous, wavy, 2-fid at the tip. *Stamens* spreading; filaments three inches long, dark red-purple; anthers yellow, three-quarters of an inch long. *Style* filiform, green; stigma slender.—*J. D. H.*

Fig. 1. Base of corolla and stamen. 2. Tip of corolla-lobes. 3. Base of calyx, disc, and ovary. 4. Transverse; and 5. Longitudinal section of ovary:—*all magnified.*



Tab. 5758.

CYCLAMEN Africanum.

Algerian Cyclamen.

Nat. Ord. Primulaceæ.—Pentandria Monogynia.

Gen. Char. *Calyx* 5-partitus. *Corollæ* tubus brevis, subglobosus, fauce incrassata, limbi refracti laciniis 5 tubo longioribus. *Stamina* 5, imo corollæ tubo inserta, inclusa, filamentis brevissimis; antheræ cuspidatæ. *Ovarium* 1-loculare; stylus indivisus, stigmate simplici; ovula numerosa, peltatim amphitropa. *Capsula* globosa, 1-locularis, 5-valvis, valvis reflexis. *Semina* plurima, subglobosa, angulata, umbilico ventrali; embryo rectus, umbilico parallelus.—Herbæ Europæ mediæ, Asiæ occidentalis et Africæ borealis *incolæ, tubere carnoso napiformi.* Folia *radicalia, petiolata, cordato-reniformia.* Scapi *nudi, 1-flori, floriferi stricti, fructiferi in spiram convoluti humo appressi.* Corolla *rosea, purpurea v. alba.*

Cyclamen *Africanum*; tubere magno, foliis synanthiis basi cordatis sæpius acute 7–9-angulatis margine revolutis crenulato-dentatis, pedunculis superne calycibusque pubescenti-glandulosis, sepalis ovatis setaceo-acuminatis glanduloso-dentatis, corolla roseo-alba, tubo apice non constricto, fauce 10-dentato, laciniis oblongo-linearibus, antheris sessilibus.

Cyclamen Africanum. *Boiss. & Reuter, Pugill. Plant. Nov. Afr. Or. et Hisp. Austr. p.* 75. *Planchon in Flore des Serres, v.* viii. *t.* 841.

Cyclamen Neapolitanum. *Duby in DC. Prodr. quoad descriptionem et patriam Algeriam, non Tenore.*

Cyclamen macrophyllum. *Host ex Planchon in Fl. des Serres, l. c.*

The largest species of the beautiful genus to which it belongs, the tubers sometimes attaining the size of a large turnip. It is a very common Algerian plant, and was sent to the Royal Gardens by Giles Munby, Esq., Col. Playfair, Consul-General of Algeria, and other parties, and it flowers abundantly in September.

I follow Boissier and Reuter in considering this a distinct species, though under a conviction that it is but a form of one of the European kinds (probably *C. Neapolitanum*), which

are themselves so variable that authors differ widely as to their nomenclature and synonymy; its best character appears to reside in its strongly toothed calyx-lobes. The figure in the 'Flore des Serres' represents a huge overfed garden form of the plant, quite unlike any indigenous specimens.

DESCR. *Tuber* very large, four to ten inches in diameter. *Leaves* two to two and a half inches long, ovate-cordate, obscurely or shallowly and acutely angled, obtusely coarsely toothed, dull green, marbled with paler green, pale beneath; petioles and scapes red. *Calyx* pubescent, 5–6-fid; lobes broadly ovate, acuminate, toothed, green-veined. *Corolla* nearly white, with a faint rose-purple tinge; segments five to six, deep purple at the base, one inch long.—*J. D. H.*



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Tab. 5759.

VANDA insignis.

Noble Vanda.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide suprà*, Tab. 5174.)

Vanda *insignis*; foliis rigidis canaliculatis apice inæquali-abscissis v. dentatis, racemis folium æquantibus laxis 5–7-floris, perianthii foliolis patentibus obovato-spathulatis rectiusculis, labelli basi 2-carinati lobis lateralibus parvis adscendentibus obtusis, intermedio arrecto apice repente dilatato-rotundato undulato ad basin subhastatam utrinque calloso, calcari compresso conico obtuso recurvo.

Vanda insignis. *Blume, Rumphia, v.* 4. *p.* 49, *t.* 192. *f.* 2 *et* 197 A. *Lindl. in Paxt. Fl. Gard. v.* 2. *p.* 19, *cum ic. xylog. Folia Orchidacea, Vanda, No.* 7. *Reichb. in Gard. Chron.* 1868, *p.* 1259.

The magnificent Orchid here figured is one of the most interesting importations of late years. It settles a long obscure point in the garden nomenclature of this noble genus, proving that the plant which has hitherto usually borne the name of *V. insignis* is not the plant of Blume, but, as was often suspected, a form of *V. tricolor*; and that Blume's plant is not only a perfectly distinct species, but as fine a one as any in the genus, *V. Cathcartii*, perhaps, alone excepted. The *V. insignis* is a native of the Moluccas; it was sent to Messrs. Veitch by their late lamented collector Mr. Hutton, and flowered at their establishment in the King's Road in October 1868. Blume gives the mountains of the island of Timor as its native country. It is probably as rare as it is a little-known species; for I do not find it included in the rich (1866) catalogue of the plants cultivated in the Royal Botanic Gardens of Buitenzorg, in Java, where upwards of 500 Orchids, chiefly Malayan, are enumerated.

Descr. *Stem* suberect, as thick as the finger, leafy. *Leaves* equidistant, ten inches long, one to one and a quarter broad,

closely imbricating below, curved in a semicircle, linear, but slightly narrowed at both ends; apex truncate, obliquely excised, in one curve or in two, one on each side the midrib, deep green, nerveless, as are their sheaths, deeply keeled, with rather recurved margins. *Raceme* rather short, axillary, shorter than the leaves, drooping, 4–7-flowered; rachis green, terete. *Flowers* two to two and a half inches in diameter, spreading; pedicels and ovary together one and a half inch long, at right angles to the rachis, almost white. *Sepals* obovate-spathulate, three-quarters of an inch in diameter, obtuse, fleshy, bright ochraceous brown, with darker brown blotches, whitish externally. *Petals* similar, but narrower. *Lip* almost fiddle-shaped, consisting of a subovate white body, with two short auricles or lateral lobes, and two low ridges on its disk; this suddenly expands into a rosy semilunar concave limb, one inch broad, with smooth surfaces and entire rounded margin. *Column* short, thick.—*J. D. H.*

Vincent Brooks Day & Son lith.

Tab. 5760.

AGLAONEMA Mannii.

Mr. Mann's Aglaonema.

Nat. Ord. Aroideæ.—Monœcia Polyandria.

Gen. Char. (*Vide suprà*, Tab. 5500.)

Aglaonema *Mannii*; foliis breviter petiolatis elliptico-oblongis mucronatis luride viridibus, vaginis 2–3-pollicaribus viridibus, marginibus anguste membranaceis, spatha breviter pedunculata 2 poll. longa oblonga acuta, e basi breviter convoluta aperta sordide alba, spadice spatha paulo breviore cylindrico obtuso, ovariis ad 15 depressis 2-locularibus, stigmate sessili disciformi concavo, antheris 3-gonis late truncatis 2-porosis.

To those who cultivate stove plants, the value of the tropical Aroids is well known, because of their fine evergreen foliage and remarkable freedom from insects, their singular form, and the often conspicuous nature of their floral organs. Of the several hundreds that are in cultivation in England, and on the continent, where they are more highly prized than with us, not half a dozen have been imported from Tropical Africa, where various species form conspicuous features in the humid forests of the west coast. Amongst these is the subject of the present plate, which was sent to the Royal Gardens by Mr. Gustav Mann from the Victoria Mountains, one of the Cameroon range, which that intrepid traveller and excellent collector was the first to explore. The genus to which it belongs has hitherto been known as a native of India only, where it ranges from the foot of the Eastern Himalaya through the Malayan peninsula and islands to the Moluccas, and it thus forms another proof of the close affinity between the tropical African and Malayan floras.

Descr. *Stem* eighteen inches to two feet high, as thick as

the thumb, covered with the erect sheathing bases of the leaves. *Leaves* five to seven inches long, by three to four broad, coriaceous, elliptic-oblong, rather obtuse, mucronate, dark green above, paler below, with prominent midrib and veins; petiole above the sheath half an inch long, stout, deeply channelled in front, swollen at the base, as if jointed on the sheath, which is two to four inches long, herbaceous and green, with a very narrow membranous margin, not auricled, but rounded at the upper termination. *Peduncle* terminal, short, stout, erect. *Spathe* two inches long, white, greenish below, discoloured above, scarcely convolute at the concave base, then gradually expanding, but the margins only reflexed. *Spadix* one-third shorter than the spathe, one-third of an inch in diameter, cylindric, on a stout columnar peduncle, one-third of an inch long. *Male portion* half the whole length; anthers white, trigonous, truncate, and flat-topped, with 2 apical pores. *Ovaries* about fifteen, 2-celled, very depressed, subspheroidal, but irregular in figure, scarlet. *Stigma* a sessile depressed disk.—*J. D. H.*

Fig. 1. Spadix. 2. Group of three anthers. 3. Anther. 4. Ovary. 5. Transverse; and 6. Vertical section of ovary:—*all magnified.*



W Fitch, del. et lith

Vincent Brooks, Day & Son, Imp.

Tab. 5761.

AMOMUM sceptrum.

Sceptrate Grain of Paradise.

Nat. Ord. Zingiberaceæ.—Monandria Monogynia.

Gen. Char. (*Vide suprà*, Tab. 4603.)

Amomum *sceptrum*; foliis petiolatis anguste oblongo-lanceolatis glabris, ligula scariosa, scapis simplicibus apice clavato-turgidis, circa 10-floris, bracteis superioribus dorso apiculatis tempore florifero transverse plicatis, labello amplo orbiculato undulato roseo, staminodiis liberis, fructu ovoideo compresso v. sub 3-gono glabro, pericarpio crasso, seminibus angulatis.

Amomum sceptrum. *Oliver & Hanbury in Journ. Linn. Soc. v.* 7, *Bot.* (1863), *p.* 109.

A very beautiful plant, discovered by Gustav Mann, whilst collecting for the Royal Gardens, on the Gaboon River, in 1861, and at Ambas Bay, where it grows near the shore. The specimens here figured were raised from seed procured by Daniel Hanbury, Esq., F.R.S., who flowered it in his garden at Clapham in January of the present year, and who informs me that it has also been sent from Old Calabar in 1863, and from Akassa, River Nun, by Mr. E. J. L. Simmonds in 1865. As a species it approaches *A. longiscapum* (Hook. Kew Journ. Bot. 1854, p. 296), but differs conspicuously in the narrowed base of the leaf and the linear outer perianth-lobes. Though belonging to the same genus as the plant producing the pungent and highly aromatic Melaguetta or Grain-of-Paradise seeds, those of this species are almost flavourless.

Descr. *Rhizome* stout, rooting, sending out long scaly suckers. *Leafing stems* five to six feet high. *Leaves* eight to ten inches long, narrow oblong-lanceolate, one and a quarter to one and a half inch broad, narrowed to an acu-

minate point, unequal at the base, and obliquely decurrent on a very short slender petiole. *Sheath* five to eight inches long in its loose open part, which is rather membranous and finely striate; ligule oblong, scarious, half an inch long. *Blade* with a distinct midrib, striated with innumerable fine parallel diverging nerves. *Flowering scape* six inches high; *fruiting*, one to one and a half foot, erect, slender, red-brown, covered with appressed obtuse sheaths of a darker red-brown; those surrounding the flowers distichous, gradually larger, retuse or emarginate, green, mottled with brown, and with brown margins. *Flowers* suberect, three inches long, altogether of a fine bright rose-purple. *Spathaceous* or *outer perianth* short, obliquely truncate, subacute. *Dorsal petal* narrow, oblong, obtuse, arched, very concave, twice as long as the stamens; lateral lanceolate, decurved. *Lip* two to two and a half inches in diameter, lamina orbicular, waved, almost plicate. *Staminodes* linear, obliquely truncate. *Anther* pubescent, with the connective produced at the top into two spreading linear-oblong obtuse incurved horns; filaments with an erect subulate basal appendage on each side. *Stigma* small, capitate, excavated. *Fruit* three inches long; narrowly flagon-shaped. *Seeds* subpyriform, like grape-stones; testa bright pale brown, very shining, nearly tasteless.—*J. D. H.*

Fig. 1. Ovary and spathaceous perianth. 2. Anther. 3. Staminodes. 4. Ovule in its aril. 5. Seed:—*all magnified.*



W Fitch, del et lith

Vincent Brooks, Day & Son, Imp

Tab. 5762.

CARYOTA Cumingii.

Mr. Cuming's Wine-Palm.

Nat. Ord. Palmeæ.—Monœcia Polyandria.

Gen. Char. Flores monoici in distinctis spadicibus, spathis aliquot basilaribus completis cincti, sessiles, bracteolati. Masc. *Calyx* 3-phyllus, foliolis ovatis imbricatis. *Petala* 3, oblonga, valvata. *Stamina* plurima, filamentis brevissimis basi in urceolum connatis; antheræ lineari-oblongæ. Fem. *Calyx* maris. *Petala* imbricato-convolutiva. *Staminum rudimenta* 0. *Ovarium* 3-loculare, stigmatibus 3 depressis connatis. *Bacca* 2-locularis, 2-sperma. *Semina* plano-convexa, albumine cartilagineo ruminato; embryo dorsalis.—Palmæ Indicæ, *caudice annulato.* Folia 2-*pinnata*, *pinnulis præmorsis.* Spadices *magni*, *fastigiato-ramosi.* Baccæ *pisiformes.*

Caryota *Cumingii*; trunco mediocri basi parce sobolifero, foliis bipinnatis, 5–6-pedalibus, vaginis glabris, petiolo tereti glabro, rachi superne et rachibus partialibus sparse nigro-furfuraceis compressis subquadratis superne sulcatis, pinnulis subcoriaceis sessilibus elongato-dimidiato-rhombeis extrorsum grosse eroso-dentatis, spadicis ramis pedalibus, floribus masculis $\frac{1}{2}$ poll. longis, antheris elongato-linearibus apice 2-lobis.

Caryota Cumingii, *Loddiges ex Mart. Hist. Palm. iii. p.* 159.

This plant has for many years been cultivated in the Royal Gardens as the *Caryota Cumingii*, which was introduced by the late Hugh Cuming from Singapore some twenty years ago. The authority of the specific name appears to be the late Messrs. Loddiges, by whom the plant was first raised, and probably presented to these Gardens. It is alluded to in Martius's great work, and defined there by a short description transmitted by De Miquel, which, however, like all specific diagnoses of Palms, does not suffice to identify the species: so difficult is it to express the characters of these noble trees; nevertheless, so far as it goes, the description

applies. It is a most elegant little Palm, differing from its great congener *C. urens* in size, in the nearly glabrous petioles, and in sending out suckers from the base of the stem, as *C. sobolifera* does, but much fewer of them. It may indeed prove identical with *C. sobolifera*, a native of Malacca, described by Griffith subsequently to *C. Cumingii*; but the leaflets appear longer. As with all its congeners, after arriving at maturity it throws out a flowering spadix (in this case male) from the uppermost leaf-axil, and then from the next leaf-axil lower down, and so on downwards till all the leaf-axils have flowered, after which the stem dies. There is thus fruit at the top of the tree and buds at the bottom for a long period.

Descr. *Trunk* ten feet high, erect, covered almost to the base with the sheathing leaf-bases, as thick as the forearm. *Leaves* about five to six feet long, spreading, three to four feet broad, bipinnate; sheath very coriaceous, glabrous, dark green; petiole terete, thicker than the thumb; rachis terete for halfway up, then becoming compressed laterally, slightly convex on the back, grooved in front, presenting a vertically elongate oblong figure when cut across, the apex and the partial raches having on their sides a sparse black furfuraceous down. *Pinnules* eight to ten inches long, rather coriaceous, sessile, two to two and a half inches broad, subfalcate, obliquely cuneate for one-quarter to one-third up from the base; lower margin straight, upper entire for the cuneate portion, then irregularly sharply erose for the other two-thirds; lowest pinnule shorter and broader, uppermost longer. *Spadix* a foot long, formed of a bundle of floriferous simple partial spadices, green. *Male flower* half an inch long; sepals very broad and short, ciliate, almost circular and cup-shaped. *Petals* one-quarter to one-third of an inch long, four times as long as the calyx, very coriaceous, erecto-patent, oblong, obtuse. *Anthers* narrow, bilobed at the apex; filaments very short.—*J. D. H.*

Fig. 1. Reduced view of the Palm. 2. Pinnule. 3. Portion of spadix. 4. Female flower. 5. Male ditto. 6. Stamen:—*all but* 2 *and* 3 *magnified.*


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2
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Tab. 5763.

KÆMPFERIA Parishii.

Mr. Parish's Kæmpferia.

Nat. Ord. Scitamineæ.—Monandria Monogynia.

Gen. Char. (*Vide suprà*, Tab. 5600.)

Kæmpferia *Parishii*; caudice tuberoso, radicibus passim tuberiferis, scapis præcocibus paucifloris, vaginis inferioribus brevibus late oblongis acutis fusco-reticulatis, foliis oblongo-lanceolatis acuminatis basi acutis costa valida, ovario piloso, perianthio externo spathaceo apice 2-caudiculato, petalis 3 exterioribus anguste linearibus apice subulato-tereti acuminatis albis, interiorum 2 superioribus oblongis apiculatis albis, inferiore bilobo lobis obovato-cordatis purpureis, antheræ connectivo superne in laminam apice fissam dilatato, staminodiis filiformibus.

This is another of the Rev. C. Parish's valuable contributions to the Royal Gardens; it is a native of the dense forests of Moalmayne, whence seeds were sent home which flowered in a stove in July of last year. Like its allies of the genus. the flowers appear long before the leaves, after the full development of which latter, the whole plant goes to rest. As a species it closely approaches *K. diversifolia*, Link (*K. ovalifolia*, Roscoe, Monand. Plants, t. 95), but differs in the short, oblong, appressed, reticulate lower sheaths of the flowering scape, and in the two lower inner perianth-segments not being appendaged in the sinus.

Descr. A glabrous herb. *Root* stout, tuberous, emitting many stout cylindric fibres as thick as a small quill, that bear at intervals oblong tubers the size of a nut. *Leafing stems* one inch in diameter at the base. *Leaves* six to nine inches long, pale green, not glaucous, oblong-lanceolate, acuminate, waved, pale below, with a very stout midrib and prominent diverging nerves; petiole short, half to one inch

long, stout, deeply channelled in front; sheaths four to eight inches long, open, green, with short rounded ligules. *Flowering scapes* three inches high, as stout as the little finger; lower sheaths three to four, oblong, acute, appressed, pale yellow-green, reticulated with brown nerves; inner narrower, white, with purple veins. *Flowers* several, three inches long. *Ovary* small, pilose. *Outer* or sheathing *perianth* two inches long, gradually swelling upwards, truncate at the top, with two subulate points, white. *Inner perianth*-tube exserted, slender, terete, white; three outer segments spreading and recurved, two inches long, linear, with a terete subulate apex, white; two upper inner segments oblong, obtuse, apiculate, white; lower deeply 2-lobed, each lobe equal to the upper, obcordate, bright violet-purple. *Anther* with the connective dilated into a broad oblong membrane unequally cut at the apex. *Staminodes* very slender. *Stigma* funnel-shaped.—*J. D. H.*

Fig. 1. Flower with part of the petals removed. 2. Anther and stigma. 3. Ovary and staminodes:—*all magnified.*



1.

W Fitch, del et lith.

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Tab. 5764.

ALLAMANDA nobilis.

Noble Allamanda.

Nat. Ord. Apocyneæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4351.)

Allamanda *nobilis;* scandens, ramulis robustis, petiolis foliis calycibusque pubescenti-pilosis, foliis oppositis v. 3-4natim verticillatis oblongo-lanceolatis acuminatis brevissime petiolatis, glandulis minutis rotundatis, sepalis foliaceis ovato-lanceolatis, corollæ extus pubescentis tubo gracili, limbo oblique campanulato, lobis amplissimis horizontaliter patentibus medio valide 3-nerviis.

Allamanda nobilis. *T. Moore in Gard. Chron.* 1868, p. 180 *et* p. 918, *cum ic. xylog.*

A magnificent plant, imported from the Rio Branco, on the confines of Brazil and Venezuela, by Mr. Bull, of Chelsea, and certainly one of the finest stove climbers in cultivation. As a species I doubt very much its proving distinct from *A. Schottii* (Tab. nost. 4411, by error 4911), *A. grandiflora* (Tab. nost. 4351), *A. Aubletii*, and *A. Hendersonii;* but as a horticultural acquisition it differs from all these, and surpasses them individually, either in habit or in the large size and full green of the foliage, or in the very large flower, its regular contour and bright colour, or in the number of flowers produced, or in their magnolia-like odour—altogether rendering it one of the most gorgeous free-flowering stove-plants introduced into Europe for many years past. From the original *A. Schottii* (Tab. nost. 4351) it differs more conspicuously than from *A. Hendersonii* in its pubescent calyx and broader more abruptly acuminate leaves, as well as in other points; but in my experience of both wild and cultivated *Apocyneæ*, these have proved to be very variable characters; and judging also by dried specimens of forms not hitherto imported in a living state, I suspect that many intermediate

forms between these and others, perhaps connecting them all with the old *A. cathartica*, may yet be found. The erect or scandent habit, so striking a character in cultivated plants, is one singularly liable to variation in a state of nature. For the magnificent specimen here figured, I am indebted to Mr. Glendinning, of Turnham Green, with whom it flowered in July, 1868.

Descr. A tall stout pubescent climber, the pubescence extending over all parts except the upper surface of the corolla lobes. *Stems* slender, green tinged with purple. *Leaves* opposite or whorled in threes and fours, subsessile, six to eight inches long, oblong or oblong-lanceolate, abruptly acuminate, pale green above, paler and more pubescent below, glands minute, orbicular. *Flowers* in six- to eight-flowered axillary racemes; shortly pedicelled. *Sepals* very unequal, about one inch long, ovate-oblong or lanceolate, subacute, green. *Corolla* four to five and a half inches in diameter, fine golden yellow, with a pale spot at the base of each segment; tube rather slender, one and a half inch long, expanding abruptly into an oblique campanulate limb, which has five imbricating broadly orbicular-obovate spreading three-nerved segments, margined externally with red in the bud.—*J. D. H.*

Fig. 1. Disc, ovary, style and stigma:—*magnified.*

W Fitch, del et lith

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Tab. 5765.

RICHARDIA MELANOLEUCA.

Black-throated Richardia.

Nat. Ord. Aroideæ.—Monœcia Monandria.

Gen. Char. (*Vide supra*, Tab. 5140.)

Richardia *melanoleuca*; scapo petiolisque inferne pilis rigidiusculis sparsis, foliis hastato-ovatis acuminatis maculis oblongis translucidis albis notatis, auriculis obtusis; spatha pallide straminea a basi aperta recurva marginibus revolutis, intus basi plaga ampla atro-purpurea notata, spadice brevi.

This belongs to a remarkable group of African *Richardias*, distinguished by the often white transparent spots on the foliage, and cream-coloured flowers, to which belong the *R. albo-maculata* (Tab. nost. 5140) and *R. hastata* (Tab. nost. 5176). From both these the present plant appears to be well distinguished by its spathe being open to the very base, thus exposing the dark-black purple spot at its base, which is only seen in the other species by everting the spathe: whether this is a sufficient distinctive character cannot be determined without more specimens of these plants than are at present in cultivation. In other respects they present no difference of consequence. *R. melanoleuca* was imported by Mr. Bull, of Chelsea, from Africa, and was flowered in his establishment in the autumn of 1868. Like its congeners it is no doubt a greenhouse plant, and may be cultivated out of doors in the warmest parts of England.

Descr. Plant, two feet high. Habit and appearance of *R. albo-maculata*: lower part of petioles and scape bearing a few spreading stiff bristly hairs. *Leaf* six to nine inches long, exclusive of the petiole; oblong, or ovate-hastate, acuminate with a filiform point; basal lobes spreading, obtuse, base deeply cordate; substance membranous, dark green, with many oblong translucent spots following the direction of the

nerves. *Spathe* three inches long, and as broad when spread out, quite open from the very base, acuminate with a filiform apex, recurved, as are the margins, pale straw-coloured, with a large dark-red purple basal spot. *Spadix* one to one and a half inch high, shortly stipitate; male portion bright orange-yellow; female with about four rows of green subglobose ovaries.—*J. D. H.*

Fig. 1. spadix; 2, stamen; 3, ovary; 4, transverse, and 5, longitudinal section of ditto:—*all magnified.*



W Fitch, del et lith

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Tab. 5766.

DENDROBIUM crassinode.

Thick-knotted Dendrobe.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4755.)

Dendrobium *crassinode ;* caulibus pallidis robustis creberrime nodosis leviter sulcatis, nodis globosis internodiis duplo latioribus, floribus ad nodos solitariis v. 2-nis, pedicellis basi bracteis scariosis vaginatis, sepalis lineari-oblongis subacutis albis apice roseis petalis consimilibus sed latioribus, labello ovato-rotundato breviter unguiculato superne tenuiter velutino albo apice roseo disco flavo, mento brevissimo.

Dendrobium crassinode, *Benson et Rchb. fil. in Gard. Chron.* 1869, p. 164.

One of the most remarkable Dendrobes hitherto discovered, of which an excellent sketch was sent to Sir W. Hooker by Mr. Parish in 1859, and another to myself by Col. Benson early in 1868, and which was shortly followed by living plants from the latter gentleman, both to Messrs. Veitch and to the Royal Gardens, that flowered simultaneously in January of the present year.

Mr. Parish's specimens were procured in the Siamese province of Kiong-koung ; Col. Benson's are from the Arrakan mountains, at an elevation of 2500 feet. The drawings of both differ a very little from the cultivated specimens, Mr. Parish's in having a purple base to the claw of the lip, and purple edges to the wings of the column ; Col. Benson's in having a deep purple column. The latter gentleman finds as many as twenty-two flowers upon one stem. As a species *D. crassinode* approaches in habit to *D. nodatum*, Rchb. (Tab. nost. 5470) and in flower to *D. Bensoniæ nob.* (Tab. 5679), but is abundantly distinct from both in the stems.

Descr. Forming large tufted leafless masses. *Stems* pendulous, a span to two feet long, formed throughout of swollen internodes, in the form of depressed spheres one inch in

diameter, and less than that apart; the constricted portions between them about half that diameter; nodes and internodes with shallow distant grooves; the upper half of each node is covered with a scarious appressed sheath; colour pale dull olive-green. *Leaves* not developed in our specimens, apparently confined to first year's shoots at the base of the stems. *Flowers* two to two and a half inches in diameter, abundantly produced from the upper nodes, solitary or in pairs; white with broad rosy tips to the sepals, petals, and lip, and a yellow disc to the latter. *Sepals* linear-oblong, acute or subacute. *Petals* similar, but much broader. *Lip* very broadly ovate-oblong, obtuse, undivided, shortly clawed; margin minutely erose and ciliate; upper surface covered with a fine velvety down. *Column* short, white in our specimen, purple in Col. Benson's drawing.—*J. D. H.*

Fig. 1. Ovary and column; 2, lip:—*both magnified.*



W. Fitch, del.et lith

Vincent Brooks Day & Son Lith

Tab. 5767.

SACCOLABIUM BIGIBBUM.

Orange-flowered Saccolabe.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide Supra*, Tab. 5433.)

Saccolabium *bigibbum;* caule brevissimo, foliis late lineari-oblongis apice contracto 2-fido, racemis breviter pedunculatis subcorymbosis folio brevioribus, sepalis petalisque consimilibus patentibus pallide flavis spathulatis, calcare subhemispherico, labelli lamina latissime triangulari calcare latiore sed breviore margine eroso-ciliato disco lævi, columna brevi.

Saccolabium bigibbum, *Rchb. fil. MSS.*

A very curious discovery of Col. Benson's, in Rangoon or Arrakan, and by him communicated to Messrs. Veitch, who flowered it in November, 1868; it is nearly allied to *S. denticulatum* (Tab. nost. 4772), of the Khasia Mountains, and to *S. acutifolium*, Lindl. of the Sikkim Himalayah; having a similar habit, subcorymbose inflorescence, spathulate petals and sepals, and large broad laterally compressed spur, upon the outer edges of which the very broadly triangular lip is perched; but it differs from these in the colour of the flower, the naked disc of the lip, the shorter stem, and bifid apices of the leaves.

Descr. A small epiphyte. *Roots* flattened, creeping extensively on the surface of wood, pale brown. *Stem* very short. *Leaves* few, spreading, three to four inches long, by one broad; linear-oblong, bifid at the contracted apex, bright green, paler and keeled below, coriaceous. *Peduncle* one to one and a half inch long, curved, and rachis green. *Raceme* very short, almost corymbiform, drooping, many-flowered, shorter than the leaves. *Flowers*, twelve to fifteen in each corymb, two to three inches in diameter, pale yellow with faint red markings on the edge of the spur. *Sepals* and *petals*

very similar, spreading, spathulate, obtuse or subacute, with broad flat claws. *Spur* large in proportion to the size of the flowers, sub-hemispherical, short, and broad, laterally compressed, about as long from back to front as the lateral sepals. *Lip* placed on the outer edge of the spur, and thus apparently disconnected from the rest of the flower; very broadly triangular, with erose and ciliated margins, white, tumid and yellow on the disc, which is smooth or papillose. *Column* very short.—*J. D. H.*

Fig. 1. Lateral, and fig. 2, front view of flower :—*both magnified.*



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W Fitch, del.et lith

Vincent Brooks, Day & Son, Imp.

Tab. 5768.

PALAVA flexuosa.

Flexuous-stemmed Palava.

Nat. Ord. Malvaceæ.—Monadelphia Polygynia.

Gen. Char. *Bracteolæ* o. *Calyx* 5-*fidus*; *Columna* staminea usque ad apicem in filamenta ∞ divisa. *Ovarii* loculi ∞ ; styli rami totidem, filiformes, superne truncati summo vertice stigmatosi. *Carpella* matura inordinate capitato-congesta, a receptaculo secedentia, indehiscentia. *Semen* ascendens.—Herbæ Peruvianæ et Chilenses, *tomentosæ v. glabriusculæ.* Folia *sæpius lobata dissecta v. sinuata.* Flores *axiliares*, *pedunculati*, *solitarii*, *purpurei*. *Habitus fere* Cristariæ.

Palava flexuosa; annua, pilosa, ramis ascendentibus superne flexuosis, foliis oblongo v. deltoideo-ovatis sub 2-pinnatifidis lobis primariis paucis oblongis lobulatis v. pinnatifidis, stipulis subulatis, pedunculis folia superantibus, sepalis triangulari-ovatis basi purpureis, carpellis mamillatis.

Palava flexuosa, *Masters in Gard. Chron.* 1866.

A lovely hardy or half-hardy annual, discovered in the valley of San Lorenzo, in Peru, by Mr. McLean of Lima, who sent it to Sir W. Hooker some thirty years ago; since which time nothing seems to have been known of the plant until its introduction by Messrs. Veitch, through their successful collector, Mr. Pearce, who sent seeds that flowered in the Royal Exotic Nurseries in June 1868. The genus consists of five or six species, some annual, others perennial, all natives of the Western slopes of the South American Andes, and all well worthy of cultivation. One of these, *P. rhombifolia*, Graham, was figured in this work (Tab. 3100) many years ago.

Descr. A slender annual, branched from the roots, covered with spreading branched hairs. *Stems* eight to ten inches long, ascending, slender, flexuous above. *Leaves* on slender petioles, one to two inches long; blade one to two inches

long, and broad, oblong-ovate, or triangular-ovate in outline, pinnatifid with one or two pairs of spreading lobed or irregularly pinnatifid segments, which are obtuse or rounded at the apex; stipules subulate, slender. *Peduncles* longer than the leaves, very slender. *Flower* one to one and a half inches in diameter, light mauve, pale towards the centre, with bright red anthers and bases of the petals. *Sepals* triangular-ovate, acute, purple at the base, green, not glandular dotted as they are in a closely-allied species. *Petals* very much larger than the sepals, obliquely truncate. *Anthers* very numerous, superimposed in five longitudinal series. *Carpels* tumid and mammillate. *Styles* very numerous (twenty-five to thirty), spreading, truncate.—*J. D. H.*

Fig. 1. Flower with corolla removed. 2. Ovary. 3. Transverse section of ditto:—*all magnified.*



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W. Fitch, del et lith.

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Tab. 5769.

AZALEA linearifolia.

Slender-leaved Azalea.

Nat. Ord. Ericeæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4726.)

Azalea *linearifolia ;* ramulis pedicellisque hispidis, foliis elongato-linearibus utrinque angustatis longe acuminatis marginibus revolutis sinuatis ciliatis, floribus 1-3 terminalibus, sepalis elongato-setaceis hispido-glandulosis ; corollæ laciniis liberis roseis longe subulato-lanceolatis glabris patenti-recurvis, staminibus 5, ovario appresse setoso.

Rhododendron linearifolium, *Siebold and Zuccarini, Fl. Jap. Fam. Nat. Sect. altera*, p. 7.

This is certainly the most remarkable species of *Azalea* hitherto introduced, well supporting the character of its native country, Japan, for contributing odd as well as handsome plants to our collections. It has been referred to *Rhododendron* by its original describers, Siebold and Zuccarini, but this could only be under the extreme course of uniting *Azalea* with *Rhododendron*, a step I am not prepared to take. No doubt these genera are closely allied, and a few species occur that are referable to either, but these are very exceptional, and the multitude of species of both kinds, and especially of *Rhododendron*, lately discovered, have not added to their number. As a rule Azaleas have deciduous foliage, a more deeply divided corolla, 5-8 stamens, and never more than five cells to the ovary ; Rhododendrons have very persistent coriaceous foliage, a less deeply-divided 5-10 lobed corolla, ten or more (rarely eight) stamens, and a 5-15 celled ovary. The present plant has all the habit and characters of an *Azalea*, carried indeed in one point to excess, for the corolla lobes are very long, and free to the very base, or all but so. It was introduced from Japan by Messrs. Standish, in whose nursery it flowered in February of the present year.

May 1st, 1869.

Descr. A small shrub; branches slender, hispid with rigid spreading hairs, red-brown. *Leaves* few, crowded at the ends of the branches, two to four inches long, narrow linear-lanceolate, $\frac{1}{4}$-inch in diameter, narrowed into a short hispid petiole; margin revolute, undulate, ciliate. *Flowers* crowded, fascicled at the ends of the branches; bracts linear or setaceous, green; pedicels short, and sepals hispid with gland-tipped hairs. *Calyx* segments linear-subulate, one half-inch long. *Corolla* one-and-a-half to two inches in diameter, of five subulate-lanceolate recurved red-purple acuminate petals. *Stamens* five, filaments as long as the petals, slender, slightly pubescent, red; anthers small, dark-brown. *Ovary* densely clothed with erect stiff bristles, five-celled; style slender; stigma capitate.—*J. D. H.*

Fig. 1. Flower with petals removed; 2. petal. 3. stamen. 4. ovary. 5. transverse section of ditto:—*all magnified.*



W Fitch, del. et lith

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Tab. 5770.

CROTALARIA CUNNINGHAMII.

Allan Cunningham's Crotalaria.

Nat. Ord. Leguminosæ.—Diadelphia Decandria.

Gen. Char. *Calycis* lobi liberi v. varie connati. *Vexillum* sæpius orbiculatum, supra unguem brevem sæpius 1-callosum, *alæ* obovatæ v. oblongæ, vexillo breviores; *carina* incurva v. dorso angulata, rostrata. *Stamina* omnia in vaginam supra fissam connata; antheræ alternæ, parvæ, versatiles, alternæ longæ basifixæ. *Ovarium* sæpissime sessile, 2-∞ ovulatum; stylus incurvus v. abrupte inflexus, longitudinaliter barbatus. *Legumen* globosum v. oblongum, inflatum, 2-valve, intus continuum. *Semina* sæpissime strophiolata, funiculo filiformi. Herbæ *v.* frutices. Folia *simplicia v. digitatim* 1-∞ *-foliolata; stipulæ a petiolo liberæ, interdum decurrentes rarius* 0. Flores *flavi, rarius cærulei v. purpurei, racemosi v. solitarii.* Bracteæ *parvæ v.* 0, *rarius foliaceæ;* bracteolis *parvis rarius* 0.

Crotalaria *Cunninghamii;* frutex tomentosus, foliis ovatis obtusis, petiolo supra medium articulato, stipulis bracteisque subulatis caducis, racemis lateralibus densifloris, floribus magnis flavidis, calyce tomentoso, lobis subæqualibus, vexillo ovato-acuminato carinam subæquante, alis brevioribus, ovario breviter stipitato villoso, legumine 1½-poll. longo coriaceo tomentoso.

Crotalaria Cunninghamii, *Hook. Ic. Pl.* 829. *F. Mueller Fragment.* v. 3, p. 52. *Benth. Fl. Austral.* v. 2, p. 182.

Though unattractive as to the colour of the flower, this is a very curious and striking greenhouse plant, the soft velvety pubescence that clothes all the surfaces with a uniform glaucous hue at once arresting the attention. It is a native of the dry, almost desert regions of North-western and Central Australia, growing on sandy ridges, from Shark's Bay to the Gulf of Carpentaria, and penetrating southwards through Central Australia towards Spencer's Gulf. The specimen here figured was raised by W. Wilson Saunders, F.H.S., and flowered in his garden at Reigate, in February of the present year.

May 1st, 1869.

Descr. A shrub two to three feet high, everywhere covered with a soft grey-green tomentum. *Stem* and branches stout, terete. *Leaves* apparently simple, but really one-foliolate; petiole half to one and a half inches long, jointed above the middle; stipules subulate, caducous; leaflet two to three inches long, oblong or ovate-oblong, obtuse at both ends. *Racemes* lateral on the branches, terminating short branchlets, short or long, one to six inches long, very stout, erect, few or many flowered; bracts subulate, deciduous. *Flowers* shortly pedicelled, one and a quarter inch long. *Calyx*, pale blue-green, tube hemispherical; lobes five, subulate, subequal. *Corolla* yellow-green, with purple veins on the ovate, long-acuminate reflexed standard. *Wings* oblong, obtuse. *Keel* as long as the standard; shortly clawed, ovate below, with a long narrowed beak. *Stamens* all united below; filaments very long and slender. *Pod* one and a half inch long, inflated, subulate, tomentose.—*J. D. H.*

Fig. 1. Flower with the corolla removed; 2, standard; 3, keel; 4, wing; 5, pod:—*all but f.* 5 *magnified.*



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TAB. 5771.

ERANTHEMUM ANDERSONI.

Dr. Anderson's Eranthemum.

Nat. Ord. ACANTHACEÆ.—DIANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 5440.)

ERANTHEMUM *Andersoni;* elatum, glaberrimum, ramis subteretibus supra nodos leviter incrassatis, foliis oblongo-lanceolatis utrinque angustatis petiolatis obtuse acuminatis, fasciculis florum subverticillatis in spicam strictam erectam densifloram dispositis, bracteis minutis, calycis lobis subulatis, corolla hypocrateriformi, tubo leviter curvo, calycem longe superante, lobis oblongis obtusis 4-subæqualibus albis antico purpureo maculato, antheris exsertis purpureis.

ERANTHEMUM Andersoni, *Masters, in Gard. Chron.*, 1869, p. 134.
E. elegans, *Masters l. c.* 1868, p. 1234, *non Brown.*

A beautiful stove plant, a native of India, whence it was sent by Dr. Anderson from the Calcutta Gardens to the Botanic Gardens of Trinidad, and thence to Kew by Mr. Prestoe, the active and intelligent curator of those long-established and flourishing colonial gardens. It was first described by Dr. Masters, from plants which flowered with Mr. Bull, of King's Road, Chelsea, and which were exhibited at the Royal Horticultural Society's Gardens in November of last year; our plant did not flower till the following January, and from it the figure here given is taken.

DESCR. A tall half-shrubby stove plant, bright green, perfectly glabrous, sparingly branched. *Stems* erect, strict, green, nearly terete, swollen above the nodes. *Leaves* six to twelve inches long, oblong-lanceolate, narrowed into a short petiole, and produced at the apex into an obtuse elongated point, bright deep green above, paler beneath. *Flowers* sessile, fascicled; fascicles whorled on a tall, erect, common peduncle, six to eight inches high, which is simply or sparingly branched at the base; bracts minute, shorter than the calyx

tube. *Calyx* short, green, with five subulate, erect, glabrous lobes. *Corolla* salver-shaped; tube slender, half an inch long, curved; limb one to one and a quarter inches in diameter, of five subequal, spreading, oblong, obtuse lobes, the two upper rather ascending, smallest, forming an upper lip; the lower also spreading, the middle of them the largest, and sprinkled with purple on the disc. *Anthers* exserted, oblong, purple; cells parallel, mucronate at both ends. *Ovary* ovoid-oblong, on an oblique cupular disc; style very slender, stigma minute, notched.—*J. D. H.*

Fig. 1. Calyx and ovary; 2, stamen; 3, ovary and disc:—*all magnified.*



W. Fitch, del. et lith.

Vincent Brooks, Day & Son, Imp

Tab. 5772.

CALCEOLARIA HENRICI.

Mr. Anderson-Henry's Calceolaria.

Nat. Ord. Scrophularineæ.—Diandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5392.)

Calceolaria *Henrici;* erecta, foliosa, caule puberulo, foliis oppositis breviter petiolatis supremis sessilibus elongato-lanceolatis 3-5 poll. longis acuminatis marginibus recurvis serratis supra glabris subtus pubescenti-pilosis, cymis pedunculatis corymbosis 6-8-floris, glanduloso-puberulis, calyce parvo explanato ad medium 4-lobo, lobis latis obtusis, corolla puberula, labiis clausis superiore inflato transverse oblongo, inferiore depresso-globoso ascendente.

For the opportunity of describing this new and almost hardy and beautiful *Calceolaria*, I am indebted to Isaac Anderson Henry, Esq., F.L.S., of Hay Lodge, Edinburgh, who received seeds of it from our mutual friend Professor Jameson, of Quito, its discoverer, who states that it grows on the Andes of Cuenca. A very similar plant was gathered on the Andes of Ecuador by Mr. Spruce (No. 6081), but differing in the much more tomentose foliage and branches, and almost villous calyces and peduncles. Mr. Henry's specimen was flowered in 1865. As a species it closely approaches *C. hyssopifolia, H. B. K.* (Tab. nost. 5548), also introduced by Professor Jameson, and flowered by Mr. Henry, and which, like this, forms a beautiful greenhouse plant.

Descr. *Stem* two to three feet high, terete, slender, erect, pale green, very sparingly pubescent. *Leaves* opposite, three to five inches long, lower and middle shortly petioled, upper sessile, elongate-lanceolate, acuminate, margins recurved serrate, glabrous and dull green above, beneath pubescent, with scattered rather woolly hairs, midrib and veins strong and prominent. *Cymes*, six- to eight-flowered, numerous, terminal and in the upper axils, corymbose or subumbellate at the top of the stem, glandular-pubescent, peduncles two

to four inches long, pedicels slender, one inch long. *Calyx* one quarter inch in diameter, flattish, obtusely four-lobed to the middle, glandular-pubescent. *Corolla* deep bright yellow, two-thirds of an inch long, puberulous; lips both much inflated, entirely closing the mouth, upper one-third smaller, depressed at the calyx, prominent in front, with a transverse depression, lower projecting, subspherical in front. *Stamens* minute, anther-cells oblong, placed end to end.—*J. D. H.*

Fig. 1. Flower with corolla removed:—*magnified.*



W Fitch. del et lith

Vincent Brooks, Day & Son, Lith

Tab. 5773.

IRIS stylosa.

Long-styled Iris.

Nat. Ord. Irideæ.—Triandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5298.)

Iris *stylosa;* foliis erectis anguste ensiformibus longe attenuato-acuminatis striatis, spathis 1-floris, valvis appressis inæqualibus submembranaceis carinatis striatis, ovario angusto elongato, perianthii foliolis subæqualibus late oblongo-spathulatis obtusis, exterioribus reflexis, stigmatibus linearibus profunde 2-fidis, segmentis apice 2-caudatis.

Iris stylosa, *Desfontaines, Flor. Atlant.*, v. i. p. 40, f. 5.

I. unguicularis, *Poiret, Encycl.*, v. iii. p. 302.

Neubeckia stylosa, *Alefeld, fide Klatt, Revis. Irid. in Linnæa*, v. xxxiv. p. 589.

A very beautiful and sweet-scented spring flowering *Iris*, for which the Royal Gardens are indebted to Mrs. Bodichon of Algiers. It has been referred by Alefeld to his genus *Neubeckia*, the characters of which, as given by Klatt in his revision of the order *Irideæ* quoted above, seem to me of very doubtful generic value, depending mainly, if not altogether, on a very variable character—viz., the length of the tube of the perianth, "elongate" in *Neubeckia*, and "short," in Iris. A further diagnostic character is given to Neubeckia, in the persistent septum of the anthers, but this, if not accompanied by characters of higher importance, is not enough to found a genus upon. Klatt refers the *I. longispatha* of this work (Table 2528) doubtfully to this species; Ledebour, however (Flora Rossica, v. iv. p. 95), identifies the *I. longispatha* with *I. biglumis*, Vahl, a Dahurian and Siberian species, of a very different habit.

I. stylosa is a native of the hedges of Algeria, and is also found in Corfu and the Morea; it was first published, without a specific name, in 1789, by Poiret, in his Voyage en Barbarie, v. ii. p. 96, and afterwards, first as *I. stylosa*, by

Desfontaines in 1798, and then as *I. unguicularis* by Poiret, in 1799.

Descr. *Rhizome* creeping, as thick as the thumb, pale, and with pale brown membranous sheaths. *Leaves* one to one and a half foot long, one-sixth to one-third of an inch broad, erect, slender, flat, thin, striated, attenuated to long sharp points, bright green, shorter or longer than the scapes. *Scape* erect, slender, sheathed by slender appressed spathes, one-flowered. *Ovary* narrow, slender, one inch or more long. *Flowers* sweet-scented, two to two and a half inches diameter. *Claws* of the perianth segments yellowish, veined with red-purple, one and a half inch long, gradually dilating into broadly oblong spathulate, subequal, entire, obtuse, unbearded laminæ; *outer* leaflets recurved, pale violet, mottled below the middle with pale yellow, and with a strong deep yellow central band; *inner* rounded at the top, apiculate, of a uniform pale violet colour. *Stigmas* deeply cleft into linear lobes which are acutely 2-fid at the apex, and usually single toothed on the outer margin.—*J. D. H.*

Fig. 1. Portion of styles, stigmas, and anther :—*magnified.*

W. Fitch del et lith.

Vincent Brooks Day & Son, Imp

Tab. 5774.

CORDIA glabra.

Smooth-leaved Cordia.

Nat. Ord. Boragineæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5027.)

Cordia (Sebestenoides) *glabra;* ramulis teretibus, pedunculis petiolisque scaberulo-pubescentibus, cæterum glabra, foliis alternis oppositis v. subverticillatis oblongo-lanceolatis acuminatis integerrimis v. subserratis in petiolum breviusculum angustatis, subtus reticulatis, cyma brevi ramosa ramis scorpioideis, calyce obconico-campanulato breviter 2-4 lobo, lobis obtusis acutisve, corolla 5-loba.

Cordia glabra, *Chamisso in Linnea*, v. viii. p. 124, *non Linn. D. C. Prod.* v. ix. p. 477.

A handsome Brazilian stove plant, introduced into the Royal Gardens from South America, and flowering late in autumn. It has been collected in the neighbourhood of Rio de Janeiro and elsewhere in Brazil, by Gardner, (No. 182 and 5031,) Von Martius, Weir, and other travellers.

Descr. A woody shrub. *Branches* terete; branchlets covered with a minute rigid pubescence, which extends over the petioles, branches of the cyme, and often the midrib and nerves of the leaf below. *Leaves* variously disposed, usually alternate, but occasionally opposite or almost whorled towards the ends of the branches, three to eight inches long, oblong-lanceolate, variable in breadth, acuminate, tapering below into a petiole, one quarter to half an inch long, glabrous and shining deep-green above, paler below, with a finely reticulated venation, quite entire or rarely with sinuate teeth along the margins. *Cymes* terminal, short, branched; branches scorpioid, several-flowered. *Calyx* between obconic and bell-shaped, variable in size, one-third to two-thirds of an inch long, glabrous, finely striated, shortly and unequally two to four lobed at the apex, lobes obtuse or sub-acute, usually hispid at the top. *Corolla* snow-white, two and a half inches in

diameter; tube rather broad, angled and corrugate; lobes five, broad, acute, much wrinkled and crumpled. *Stamens* five, short; anthers versatile, included in the tube; filaments slightly hairy at the base. *Ovary* subglobose, narrowed into the style which is sub-equally four-cleft at the apex; stigmas slightly thickened or clavate, recurved. *Fruit* (described by Chamisso), ovoid, half an inch long, subtended by the persistent calyx, truncate and apiculate at the top.—*J. D. H.*

Fig. 1. Calyx, style and stigmas; 2. base of corolla and stamens; 3. ovary:—*all magnified.*



W. Fitch, del et lith.

Vincent Brooks, Day & Son, Imp

Tab. 5775.

CEREUS lividus.

Livid Cereus.

Nat. Ord. Cacteæ.—Icosandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5360.)

Cereus *lividus;* erectus, robustus, plumbaceo-viridis, caule elato remote articulato 4-6-costato, costis compressis 1-2 poll. profundis, obtusis, rectiusculis, areolis remotis leviter depressis sublanuginosis, aculeis 6-10 rectis rigidis, $\frac{1}{4}$-$\frac{1}{2}$ poll. longis, brunneis; floribus 10 poll. diametro, albis, calycis tubo glabro, sepalis cum petalis 30-40 lineari-oblongis patentibus obtusis, stigmatibus ad 18.

Cereus lividus, *Pfeiffer Enum. diagn. Cact.* 98. *Labouret Monog. Cact.* 359.

C. Perotetti, *Hort.* (*fid. Pfeiffer.*)

One of the most striking of the columnar *Cacti* in the succulent house at Kew, and procured, I believe from Germany, as a small plant many years ago; since which time it has attained a height of twelve feet, and diameter of four to six inches. Though placed by Pfeiffer (who seems to have seen young plants only) in the section *Cereastri*, with inarticulate stems, it will be seen from the plate that when full-grown the stem is distinctly articulated at regular intervals, and it should hence probably be referred to his section *Protracti*. The specimen here figured is the largest hitherto described, and flowered for the first time in June, 1868. It is a native of Brazil, La Guayra, and Curaçoa.

Descr. *Stem* tall, erect, simple or very sparingly branched, twelve feet high in our specimen, with about twelve narrow oblong joints in that space; of a dull leaden green colour, five to six angled (six to eight angled at the very base); angles produced into thick flat straight round-edged wings or ribs, one to one and a half inches deep. *Areolæ* on slight depressions of the wings, about one to one and a half inches apart, circular, one-quarter inch diameter, grey, velvety, bearing six to eight

marginal spines, which are one-quarter to one-half inch long deflexed grey with red tips, besides one or two central ones of about the same length. *Flowers* one or two, produced on the terminal joint, ascending, ten inches in diameter, white with a yellow-green tinge. *Calyx-tube* five inches long, one inch in diameter, terete, green, smooth, glabrous, with few distant appressed green triangular scales; lobes about ten, linear-oblong, subacute, yellow-green, purplish at the back towards the tip. *Petals* very numerous, in about three series, spreading, narrow obovate-oblong, obtuse or apiculate, erose, ivory white, faintly undulate. *Stamens* excessively numerous, forming a broad cylinder two and a half inches in diameter, and two inches high, of filiform pale-green filaments, the lower most numerous, incurved at the apices; *anthers* small. *Style* very stout; stigmas about eighteen, subulate, erect, yellow.—*J. D. H.*

Fig. 1. Reduced figure of plant.



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W. Fitch, del. et lith

Vincent Brooks, Day & Son, Imp

Tab. 5776.

CROCUS ORPHANIDIS.

Prof. Orphanides' Crocus.

Nat. Ord. Irideæ.—Triandria Trigynia.

Gen. Char. (*Vide supra*, Tab. 5297.)

Crocus *Orphanidis*, bulbo lagenæformi, tunicis castaneis fibroso-membranaceis, fibris parallelis, foliis synanthiis latiusculis elongatis flores superantibus, scapo involucrato, spatha membranacea vaginis inclusa, perianthii laciniis oblongis subacutis pallide lilacinis, fauce antherisque pallide flavis, stigmatibus multifidis intense aurantiacis.

This most lovely and very distinct Grecian *Crocus* was sent to the Royal Gardens, together with many other valuable bulbs, by Professor Orphanides of Athens, under the name of *C. pholegandrus*, but with no authority for that name: as I can find no such name published, and am unable to trace its etymology, I feel compelled to coin another for it. *Crocus Orphanidis* belongs to the group with *C. Boryanus* and others, distinguished by their multifid stigmas, and flowers appearing together with the leaves; it differs, however, from all previously described species of that group, in the form of the bulb, its tunic, its great size, and the size and colour of the flower, anthers, and especially of the stigmas. It is a very handsome and free-flowering species, blossoming in a cool frame in November.

Descr. *Bulbs* very large, one and a half to two inches long, narrow, closely covered with the bright chestnut-brown tunic, which is formed of fine parallel slightly interlaced fibres. *Sheaths* of the leaves two to three, membranous, pale green, acute, slightly striate. *Leaves* produced with the flowers and much exceeding them, lengthening after flowering, seven to ten inches long, about one-fifth of an inch broad. *Spathes* membranous, for the most part included in the

sheaths. *Flowers* two to two and a half inches diameter, pale bright lilac-blue without veins, pale yellow in the throat. *Segments of perianth* equal, elliptic-oblong, obtuse, concave, not crested. *Anthers* very pale yellow. *Stigmas* slender, each many-times divided above the middle; lobes linear, slender, truncate and erose, all deep orange-red and very brightly coloured.—*J. D. H.*

Fig. 1. Stigmas; 2. portion of tunic of bulb :—*magnified.*

W.F.ch. del. et lith

Vincent Brooks Day & Son, Imp.

Tab. 5777.

PELARGONIUM SCHOTTII.

Dr. Schott's Pelargonium.

(*Garden Hybrid.*)

Nat. Ord. Geraniaceæ.—Monadelphia Decandria.

Gen. Char. (*Vide supra*, Tab. 5421.)

Pelargonium Schottii; totum molliter dense pilosum; caule suffruticoso robusto, foliis sparsis pinnatim 3-7-foliolatis, lobis lobulatis undulato-crispatis et crenato-dentatis, lateralibus cuneatis, terminali 3-lobo, stipulis late ovato-cordatis acutis; pedunculis simplicibus v. ramosis; calycis tubo pedicello multo longiore basi tumido, segmentis erectis linearibus acutis; petalis oblongo-obovatis coccineis calyce duplo longioribus.

Pelargonium Schottii, Hort.

This plant, cultivated at Kew and in Mr. W. Wilson Saunders' rich collection, was received from the Continent under the name of *Pelargonium Schottii* without any authentic record of its origin and pedigree. It has near relations, either in inflorescence or foliage, with several old garden forms, but perhaps more nearly with *P. Chærophyllum* of Sweet (Geran. tab. 257) than with any other. *P. Chærophyllum* was a hybrid raised in 1822 from *P. fulgidum* fertilised by the pollen of *P. sanguineum*.

Descr. *Stem* succulent, branched, twelve to eighteen inches high, somewhat shrubby at the base, densely covered, as are all other parts except the petals, with soft white spreading hairs. *Leaves* scattered, on petioles four to ten inches long, pale bright green and flaccid, blade pinnately three- to seven-foliolate, lobes or pinnules all much cut and lobulate with waved and crisped broadly and acutely toothed margins; lateral leaflets one to two inches long, obliquely cuneate, sessile; terminal three-lobed, often three inches broad. *Stipules* broad,

sub-cordate. *Peduncle* four to ten inches long, simple or branched, suberect, terete. *Umbel* six to ten flowered; involucral bracts linear-oblong, one-third of an inch long, obtuse; pedicels the same length or a little longer. *Flowers* one and a quarter to one and a half inches diameter. *Calyx*-tube one inch long, cylindric, slender, gibbous at the base; lobes like the involucral bracts, obtuse. *Petals* subequal, the larger three-quarters of an inch long, smaller two-thirds, oblong-spathulate, crimson with black elongate broken blotches running into the nerves on the disc.—*J. D. H.*

Fig. 1. Flower with the petals removed:—*magnified.*



Tab. 5778.

ODONTOGLOSSUM KRAMERI.

Kramer's Odontoglot.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5691.)

Odontoglossum *Krameri;* pseudobulbis suborbicularibus valde compressis ancipitibus 1-phyllis, foliis oblongo-lanceolatis, scapis ascendentibus v. pendulis foliis brevioribus flexuosis paucifloris, sepalis petalisque oblongis acutis, labelli ungue 2-calloso lamina subquadrata 2-loba pallide roseo-violacea plaga basi utrinque semilunari alba aureo et purpureo-maculata.

Odontoglossum Krameri, *Rchb. fil. in Gard. Chron.* 1868, p. 98, *cum ic. xylog. Floral Magazine*, t. 406 (sub O. Kremeri).

In the matter of delicate colouring, this is perhaps the most lovely of all the species of *Odontoglossum*, recalling a *Phalænopsis* much more than any one of its congeners; it is also a remarkably free flowerer, and holds its flowers for a considerable period. Dr. Reichenbach, who named and published it, states that it is a native of Costa Rica, where it was discovered by M. Kramer, collector for Messrs. Veitch and Sons, in whose noble Orchid collection it first flowered in 1868. The figure here given was taken by Mr. Fitch, from a drawing made at Mr. Day's, and which, representing the full size of the plant, occupies a large folio sheet of paper. Like its congeners, this plant flourishes under cool treatment, being no doubt a native of the cool regions of the Cordillera of Costa Rica.

Descr. *Pseudo-bulbs* nearly orbicular in outline, one and half inches in diameter: much compressed, sharply two-edged, pale glaucous green. *Leaves* solitary, seven to nine inches long, one and half to two inches broad, keeled, smooth, not ribbed or folded. *Scapes* four to eight inches long, three to five-flowered, pendulous, horizontal or ascending, flexuous,

green; bracts small, appressed. *Peduncles* with the ovary one to one and a half inches long. *Flower* one and a half inches in diameter. *Sepals* and *petals* subequal and similar, oblong, acute, pale violet-red in the centre, with broad white margins. *Lip* one-third of an inch broad; neck short, stout, quadrate, yellow, deeply hollowed in front, with two erect calli; limb subquadrate, two-lobed at the apex, angles rounded, the basal lateral lobes small, reflexed, pale violet-red, with two confluent semilunar white patches at the base, on each of which is a concentric red-brown band, and a few spots of the same colour on a golden-yellow ground. *Column* short, thick, without wings or appendages.—*J. D. H.*

Fig. 1. Side view of Labellum :—*magnified.*



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TAB. 5779.

PLUMERIA LUTEA.

Yellow-flowered Plumeria.

Nat. Ord. APOCYNACEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Calyx apice 5-lobus, lobis rotundatis, rarissime integer. *Corolla* tubus gracilis, rectus v. incurvus, fauce exappendiculata, lobis 5 dextrorsum convolutis. *Stamina* 5, basi corollæ inserta, filamentis brevissimis, antheræ basi sæpe dilatatæ, apice obtusiusculæ. *Ovaria* 2, disco immersa; stylus 1, stigmate oblongo apice 2-fido, ovula ∞, suturæ ventrali affixa. *Folliculi* 2, polyspermi, sutura ventrali dehiscentes, externe carnosuli. *Semina* oblonga, compressa, hinc membranaceo-alata, hilo elongato, ala laciniata, albumine 0; cotyledones amplæ.—Arbusculæ *pleræque* Americanæ, *ramis crassis cicatrisatis. Folia alterna, ampla; flores ampli in cymas terminales corymbosas dispositi, speciosi, sæpe fragrantes.* A. DC.

Plumeria lutea; foliis oblongo-obovatis v. elongato-obovatis acutis in petiolum angustatis glabris, cyma terminali umbellata multiflora folio subæquali, calycis lobis truncatis, corollæ lobis obovatis pallide roseis disco aureis tubo fere recto triplo longioribus, folliculis rectis elongatis utrinque obtusis.

P. lutea, *Ruiz* and *Pavon*, *Fl. Per.* v. 2, p. 21, t. 142. *Alph. DC. Prod.* v. 8, p. 391.

For the beautiful plant here figured the Royal Gardens are indebted to Mr. Linden of Brussels, from whom it was received a good many years ago. It has now grown to be a fine branching plant six to seven feet high, flowering copiously in June in the Palm House, where it proves a most attractive feature. The original describers of the plant, Ruiz and Pavon, seem to have known it in a cultivated state only; they say it occurs in the gardens of Peru, flowering from January to March, and is called by the natives "*Ccarhuas Suche*, id est, *Suche amarillo.*"

DESCR. A small branching glabrous tree, ten to twenty feet high. *Branches* and *branchlets* stout, green, scarred. *Leaves* crowded at the ends of the branches, spreading, eight to eighteen inches long, narrowly oblong-obovate, tapering

into the stout petiole, subacute, deep bright-green above, paler below. *Cymes* terminal, subumbelled, about as long as the leaves, many-flowered; peduncles and pedicels stout, erect, green, with red semilunar scars left by the fall of the bracts and bracteoles. *Flowers* very sweet-scented. *Calyx* green, *tube* urceolate, with five short transversely oblong truncate crenate puberulous lobes. *Corolla* four inches diameter; lobes broadly oblong, obtuse, thrice as long as the rather slender slightly curved tube, very pale pink with a broad pale golden yellow base; tube hairy within. *Stamens* small, in the bottom of the tube; anthers subacute. *Style* very short, with a cup-shaped apex, on which are the two short stigmas. *Follicles* described and figured by Ruiz and Pavon as being as long as the hand.—*J. D. H.*

Fig. 1. Tube of corolla laid open; 2. stamen; 3. calyx; 4. ovaries, style, and stigma; 5. transverse section of ovary :—*all magnified.*

W. Fitch del. et lith

Vincent Brooks Day & Son Imp.

TAB. 5780.

DENDROBIUM DENSIFLORUM.

VAR. ALBO-LUTEA.

Dense-flowered Dendrobe, white and yellow variety.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

DENDROBIUM *densiflorum*, *Wall. Cat. n.* 200. *Lindl. in Wall. Pl. As. Rar.* 40. *Gen. & sp. Orchid.* p. 90. *Bot. Mag.* t. 3418. *Bot. Reg.* t. 1828.

Var. *albo-lutea*, racemo elongato pedali laxifloro, sepalis petalisque albis translucidis, labello luteo.—Tab. nost. 5780.

Of all the varieties of *Dendrobium densiflorum*, this is certainly the most profuse flowerer, and in many respects the most elegant, resembling *D. Farmeri* in the laxer raceme, and contrast between the colour of the lip and sepals. It was exhibited at the Horticultural Society by its possessor, Wentworth Buller, Esq., of Strete-Raleigh, Devon, in March, 1867, as *D. thyrsiflorum*, a name which I have failed to find published, and one not very suggestive of the differential characters of the plant. Professor Reichenbach, to whom I referred for his opinion as to its specific value, at once pronounced it a form of *D. densiflorum*, an opinion originally expressed by Mr. Wentworth Buller, and in which I entirely coincide; for indeed except in the greener, glossier pseudo-bulbs and leaves, in the long lax panicle, and colourless transparent sepals and petals, I am unable to detect any distinctive characters. It was discovered by the Rev. C. Parish, in the Moulmein forests, and communicated by that ardent collector to Messrs. Low and Co., of Upper Clapton, from whom Mr. Buller procured it.

DESCR. *Stem* jointed, narrowly clavate, compressed, furrowed, six to nine inches long, the joints with a membranous sheath. *Leaves* few, three to six inches long, distichous, broadly lanceolate, obscurely nerved, dark green, coriaceous. *Raceme* lateral, from the apex of the stem below the leaves, recurved, pendulous, one foot long. *Flowers* very numerous,

lax, two inches broad. *Sepals* and *petals* similar, obovate, oblong, obtuse, the two lateral sepals connate at the base into a blunt sac, nearly white, not striate as in *D. densiflorum*. *Lip* rich orange, blade orbicular, fringed, exactly as in *D. densiflorum* in size, shape, and all other particulars. *Column* short, white.—*J. D. H.*



W. Fitch, del et lith

Vincent Brooks Day & Son, Imp

Tab. 5781.

VACCINIUM reflexum.

Reflexed-leaved Whortle-berry.

Nat. Ord. Vaccinaceæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5279.)

Vaccinium (Vitis-Idæa) *reflexum;* ramis elongatis flaccidis pendulis foliosis hirtellis, foliis parvis patentibus v. reflexis glaberrimis oblongo- v. ovato-lanceolatis acutis argute serratis rigide coriaceis nervoso-reticulatis, floribus parvis in corymbos breves densifloros dispositis, calycis lobis ovatis acutis coriaceis, corolla breviter urceolata 5-gona, lobis 5 parvis obtusis erectis, antheris dorso muticis.

A beautiful little Andean rock-plant, conspicuous for its pendulous habit, the deep glossy green hue of the leaves, which are reflexed on the stem and branches, the bright pale red hue of the young foliage, and deep red flowers. It was introduced by Messrs. Veitch, through their late energetic collector, Mr. Pearce, from Bolivia, and flowered in their establishment in the King's-road, Chelsea, in January of the present year. I have examined Herbarium specimens, labelled from the hills between Cuenca and Loxa, collected by Professor Jameson, others from the sources of the Maranon by Warsewitz, and from Equador by Seemann. As a species it approaches *V. densiflorum*, Benth., which is described as having shortly-awned anthers, and is a very much larger and more robust plant, with slightly serrated leaves, which are not reticulated as are those of this species.

Descr. *Stem* woody, slender, branched from the base; branches one to two feet long, hanging over rocks, &c., sparingly divided, leafy, covered with a short rather hispid pubescence. *Leaves* small, reflexed or spreading horizontally, three-quarters to half an inch long, almost sessile, oblong-lanceolate, acute, sharply serrate except at the base, thick and coriaceous, deep green or purplish above and shining,

paler beneath, much reticulated with very prominent veins on both surfaces. *Corymbs* small, short, few-flowered, or many-flowered and then subglobose, subterminal and axillary, a quarter to one-third of an inch long; peduncles short, bracteate, pedicels two-bracteolate; bracts and bracteoles small and caducous. *Calyx-tube* subglobose, lobes five, triangular-ovate, acute, coriaceous, reddish. *Corolla* red, coriaceous, urceolate or almost globose, rather acutely five-angled; lobes small, obtuse, contracted at the base. *Stamens* of equal length; filament short, broad, flat, white; anthers oblong, cells lobed at the base in front, pores oblong. *Ovary* five-celled; style short, stout, glabrous.—*J. D. H.*

Fig. 1. Leaf and portion of stem; 2, flower, pedicel and bracts; 3, ovary, calyx, style and stigma; 4, & 5, front and side view of anthers; 6, transverse section of ovary:—*all magnified.*



W. Fitch, del. et lith

Vincent Brooks Day & Son Imp.

Tab. 5782.

GEONOMA ghiesbrechtiana.

Ghiesbrecht's Geonoma.

Nat. Ord. Palmaceæ.—Monœcia Hexandria.

Gen. Char. *Flores* monœci in eodem vel in distinctis spadicibus, rarius diœci, in alveolis rhacheos immersi, feminei singulatim, masculi per binos vel ternos. *Spatha* duplex (rarissime triplex); exterior truncata, incompleta, concava; interior compressa vel fusiformis. Masc. *Calyx* uterque 3-sepalus; sepalis exterioribus carinato-concavis; interioribus planis. *Stamina* 6; filamenta inferne in cylindrum connata, apice libera; antheræ loculis divaricatis. *Ovarii* rudimentum. Fem. *Calyx* exterior 3-sepalus; interior trifidus. *Urceolus stamineus* cylindraceus, 6-dentatus, ovarium ambiens, antheris destitutus. *Ovarium* 3-loculare. *Stylus* basilaris. *Stigmata* 3, subulata, revoluta. *Bacca* 1-sperma. *Albumen* æquabile, corneum. *Embryo* sublateralis vel basilaris.—Palmæ *sylvas primævas incolentes.* Caudex *arundinaceus, gracilis, strictus, annulatus, lævigatus, rarius nullus.* Frondes *primum simplices, mox in pinnas irregulares integerrimas planiusculas vix reduplicatas fissæ* (*pinnatifissæ*), *petiolis vaginantes, partim caudici lateraliter insidentes vel omnes terminales.* Spadices *inter frondes emergentes, spicati sæpiusve paniculati.* Spathæ *ut plurimum jam ante anthesin obliteratæ* (*fibroso-secedentes*). Flores *primum in rhacheos alveolis latentes, sub anthesi emersi, straminei vel purpurascentes.* Baccæ *ovatæ vel subglobosæ, coloris obscuri, nitidæ, parce carnosæ, insipidæ.*—Kunth, *Enum. Plant.* iii. 228.

Geonoma *Ghiesbrechtiana;* caudice brevi aut subnullo; frondibus elongato-ovatis, 6 (9)-juge pinnatisectis, petiolo longo, segmentis inæqualibus, oppositis suboppositisve, remotiusculis, alternatim anguste lateque lanceolatis, longissime acuminatis falcatis, duobus superioribus in quovis latere latissimis; spadicibus simplicibus, rhachi cylindrica obtusa, alveolis margine nonnihil revolutis, integerrimis, septem-novem-fariam imbricatis.—(*Lind. et Wend.*)

Geonoma Ghiesbrechtiana.—*Linden et Wendland in Linnæa,* xxviii. (1856) 343.

Calyptrogyne Ghiesbrechtiana.—*Wendland in Bot. Zeitung,* xvii. (1859) 72.

This very ornamental Palm is figured from specimens flowered in the Royal Gardens, Kew, where it has been in cultivation several years. It was originally introduced to continental gardens from Chiapas, Mexico, by Ghiesbrecht. Dr. Wendland, who first described the species, and to whom

the accompanying plate has been submitted, is of opinion that *G. Ghiesbrechtiana*, together with *G. spicigera*, C. Koch, merit subgeneric distinction from the true Geonomas. In 1859, he published these species as generically different under the name *Calyptrogyne ;* but now he informs us he is not disposed to attach so much importance to their points of difference, and so sinks *Calyptrogyne* as a subgenus of *Geonoma,* differing from the typical species in some minor details of floral structure, which need not be enumerated here.

Descr. *Stem* short or wanting. *Leaves* pinnate, two to five feet long, pinnæ opposite or alternate, sessile, of unequal breadth, the narrower one to two-nerved, the broader six to ten-nerved, usually from six to twelve on each side of the rachis ; the intervals between the pinnæ varying from half an inch to two inches. *Petiole* broadly sheathing at the base, from a few inches to one and a half feet long. *Peduncles* erect, overtopping the leaves, bearing a single cylindrical undivided *spadix* nine to twelve inches in length. *Spathe* elongate-linear, acute, shorter than the spadix, at length deciduous. Male-flowers numerous and rather crowded, in threes, immersed in depressions of the spadix ; distinctly exserted on expansion. *Perianth* double, six-leaved, three outer segments concave carinate, inner concave and narrower. *Stamens* six, filaments united nearly to the apex. Female-flowers exserted, patent. Outer *perianth* three-leaved, inner cylindriconical, the upper calyptriform portion separating transversely and deciduous. Abortive *staminal-tube* cylindrical six-toothed, surrounding the ovary, adnate below with the inner perianth. *Ovary* three-celled, two cells abortive ; *style* tripartite elongate ; *stigmas* three, recurved, slightly protruded. (Description chiefly taken from Dr. Wendland's Memoir, cited above.)

Fig. 1. Entire plant, reduced ; 2. Spathe and spadix, with expanded male flowers near the apex ; 3 & 4. Male flowers detached ; 5. Portion of spadix bearing female flowers ; 6 & 7. Female flowers with calyptriform apex of the perianth before separation ; 8. After separation. 4, 5, 6, 7, 8 :—*magnified.*



W. Fitch del. et lith.

Vincent Brooks Day & Son imp.

Tab. 5783.

DIPLADENIA boliviensis.

Bolivian Dipladenia.

Nat. Ord. Apocyneæ—Pentandria Digynia.

Gen. Char. (*Vide supra*, Tab. 4702.)

Dipladenia *Boliviensis;* scandens, glaberrima, foliis petiolatis acuminatis basi acutis, stipulis 0, calycis lobis brevibus ovatis acuminatis, pedicellis tortis, corolla alba tubo cylindrico fauce elongato-cylindrico, ore flavo non constricto, limbi patentis lobis late ovatis obtuse acuminatis, glandulis ad basin sepalorum lobulatis, squamis hypogynis semi-orbicularibus.

The genus *Dipladenia* has hitherto been supposed to be confined to the east coast of America, ranging from Trinidad to South Brazil; hence the discovery of the present species in Bolivia by Mr. Pearce, late collector to Messrs. Veitch and Sons, is a most interesting one. As a species, it approaches very near indeed to *D. urophylla* Hook. (Tab. nost. 4414) from the Organ mountains of Brazil, but differs in the shorter apices to the leaves, the much narrower throat of the corolla, and white flowers. It is a very beautiful plant, well deserving of cultivation, and flowered for the first time in June, 1868, in Messrs. Veitch's establishment.

Descr. Everywhere perfectly glabrous. *Stems* slender, terete, twining. *Leaves* petioled, two to three and a half inches long, oblong or narrow oblong, narrowed into an obtuse acumen, acute at the base, bright green and glossy above, pale beneath, stipular glands none. *Racemes* subterminal or axillary, three to four-flowered; peduncles short, green; bracts minute, at the base of the short stout twisted pedicels. *Calyx-lobes* short, ovate, acuminate, green, one quarter of an inch long. *Glands* at the base of the calyx-lobes short, lobulate. *Corolla* almost salver-shaped, the tube and throat being both of them narrow and slender; tube cylindric, half an inch long; faux about twice as long and half as broad again, golden

yellow inside ; limb one and a half inches across, of a beautiful pearly white colour, lobes broadly ovate acuminate with obtuse tips. *Stamens* linear-sagittate. *Ovary* narrow oblong; hypogynous scales two, opposite, almost semicircular in outline ; style very slender, stigma mitriform.—*J. D. H.*

Fig. 1. Portion of corolla and stamens; 2, calyx, ovary, style and stigma; 3, base of calyx, perigynous glands, hypogynous scales and ovary; 4, lateral view of ovary and scales:—*all magnified.*



W. Fitch del et lith

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Tab. 5784.

PTERODISCUS luridus.

Lurid-flowered Pterodiscus.

Nat. Ord. Pedalineæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4117.)

Pterodiscus *luridus;* caudice obconico, ramis brevibus foliisque subtus pulvereis, foliis vix petiolatis lineari-oblongis semi-pinnatifidis segmentis ovatis obtusis, sinubus latis rotundatis, glandulis ad basin petiolorum sessilibus vertice depressis, corolla flavo-fusca, tubo lato lente curvo inferne gibbo, fauce paulo constricto, ore transverse oblongo, lobis brevibus retusis.

One of the most remarkable botanical features of the drier districts of South Africa, is the presence of plants of various natural families possessing short stout tuberous stems or caudices, rising a few inches above the ground, and sending forth from their crowns, on the approach of the wet season, a few stout herbaceous, succulent, leafy, flowering-branches: such are species of *Vitis*, of *Compositæ*, *Asclepiadeæ*, *Apocyneæ*, *Convolvulaceæ*, *Pedalineæ*, and probably many other orders. These have repeatedly been sent to this country, where they have been too often regarded as dead sticks, or if they have been planted they have been killed with kindness; in other words, they were either watered to death, or kept in damp stoves till they rotted away. Happily a different system of treatment has lately been introduced, and we may soon expect to see these curious and interesting things brought more largely into cultivation. They flourish best in a moderately warm house, planted in a poor soil, amongst stones, &c., and exposed to the full light of the sun. The present example of this form of vegetation is a native of the Albany district of Cape Colony, and was sent to the Royal Gardens from those of Graham's Town, along with many other interesting plants. It flowered in July, 1868, and though equally

curious, is less handsome than the beautiful *P. speciosus* figured at Tab. 4117 of this work.

Desc. *Caudex* stout, tuberous, a foot long in our specimen; the upper part conical, two and a half inches diameter at the widest part, and three quarters of an inch at the top, covered with pale bark. *Branches* annual, six to eight inches long, spreading, stout, rather flexuous, covered like the leaves with a powdery pubescence. *Leaves* two to three inches long, spreading, linear-oblong, subacute, pinnatifid to beyond the middle; lobes spreading, a quarter of an inch long, triangular-ovate, obtuse, quite entire, dark green above, pale below; petioles short, with a small sessile depressed gland on each side. *Flowers* solitary, axillary; pedicels very short, 2-glandular at the base. *Calyx*-lobes triangular-lanceolate, unequal. *Corolla* one and a half inches long; tube one-third of an inch diameter, slightly curved, vertically compressed, gibbous below towards the base, pale green; throat transversely reniform, contracted; lobes a quarter of an inch long, one-third of an inch broad, retuse, spreading, pale dirty orange-yellow or brown.—*J. D. H.*

Fig. 1. Calyx, pedicel and glands, with ovary, style and stigma; 2, base of corolla and stamen; 3, ovary and disc:—*all magnified.*



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Vincent Brooks Day & Son Imp.

Tab. 5785.

MORÆA BULBIFERA.

Bulbous Moræa.

Nat. Ord. Irideæ.—Triandria Monogynia.

Gen. Char.—*Perigonium* corollinum, superum, tubo brevissimo, limbi 6-partiti laciniis interioribus minoribus, post anthesin convolutis. *Stamina* 3, perigonii tubo inserta, filamentis distinctis, antheræ oblongæ basifixæ. *Ovarium* oblongo-prismaticum, stylus triqueter, gracilis, stigmatibus 3 petaloideis, 2–3-fidis; ovula plurima, angulo centrali loculorum 2-seriatim affixa, horizontalia, anatropa. *Capsula* membranacea, obtuse 3-gona, 3-locularis. *Semina* plurima, angulata.—Herbæ Capenses, rhizomate *repente v. tuberoso-bulboso.* Folia 2-*faria ensiformia.* Spathæ *elongatæ, subimbricatæ.*

Moræa *bulbifera*; 1½–3-pedalis, bulbo subrotundo, bulbillis numerosis et radicibus brevibus curvatis divaricatim ramosis circumdato, scapo angulato apice flexuoso folioso glabro, foliis distichis scapo interdum longioribus anguste ensiformibus canaliculatis striatis margine carinaque asperulis, floribus luteis distiche paniculatis, spathis bivalvibus, valvis amplexicaulibus herbaceis inæqualibus, valva inferiore breviore ovata v. ovato-lanceolata acuminata, superiore lineari-lanceolata, pedicellis trigonis glabris, perigonii laciniis oblongis obtusis recurvatis, stigmatibus bifidis laciniis lanceolatis acutis denticulatis.

Moræa bulbifera, Jacq. Hort. Schœnbr. ii. tab. 197; Klatt in Linnæa xxxiv. 565.

The Moræas, which are amongst the gayest and easiest-cultivated of Cape-bulbs, have long gone out of fashion, and yet no plants of the kind exceed them in beauty; this is no doubt mainly due to the length of time during which their bulbs or tubers must be kept dry and at rest, when the plants are as so much lumber in the greenhouse. The present species is one of the most beautiful of the genus, and produces a great multitude of its golden flowers in succession, which expand fully in the sunshine, and ornament a house for a period of several weeks. It is a native of various districts of S. Africa, and was lately imported by our friend Mr. Wilson Saunders, F.R.S., through his indefatigable collector, Mr. Cooper. It was originally introduced into the Vienna Gardens so long ago as last century, and figured, in 1792, in Jacquin's mag-

nificent "Hortus Schœnbrunensis." The specimen here figured flowered in the Royal Gardens, in May, 1868. *Viessieuxia fugax* (Tab. nost. 5438), also introduced by Mr. W. Saunders, is another species of *Moræa* (*M. edulis*, Gawl.)

Descr. *Bulbs* the size of a walnut; surrounded with innumerable bulbils, giving off numerous rigid rootlets that bear stiff horizontal fibrils. *Stem* rigid, one to three feet high, angled, glabrous, repeatedly forked, flexuous, leafy. *Leaves* often bulbiferous in the axils, distichous, longer than the stems, ensiform, six to twelve inches long, one-third to two-thirds inch broad, striated, green, slightly rough or toothed on the keel and margins. *Spathes* convolute, acuminate, appressed. *Flowers* peduncled, two inches diameter, golden yellow; pedicels 3-gonous, glabrous. *Perianth*-segments subsimilar, oblong, obtuse, slightly reflexed, the three outer speckled at the base. *Anthers* purple; pollen yellow. *Stigmas* 2-fid; segments lanceolate, acute, toothed.—*J. D. H.*

Fig. 1. Outer segment of the perianth; 2, ovary, stigmas and stamens—*all magnified.*



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Tab. 5786.

GRIFFINIA dryades.

Wood Griffinia.

Nat. Ord. Amaryllideæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5666.)

Griffinia *dryades*, elata, robusta, foliis longiuscule et crasse petiolatis oblongo-lanceolatis, scapo crasso multifloro, floribus 3-4 unc. diametro, perianthii foliolis lanceolatis lilacinis disco albo, inferiore minore, stigmate simplici.

Griffinia dryades. *Vellozo, Flor. Flum. Index*, p. 3.

Amaryllis dryades. *Vellozo, Flor. Flum. Liber primus*, p. 130, Icones, v. iii. t. 117. *Kunth. Synops.* v. 5. p. 544 (*nomen tantum*).

When figuring the beautiful *Griffinia Blumenavia* two years ago (*Tab. nost.* 5666), it was little expected that a much larger and finer congener would soon be introduced; such however is the present plant, a native of maritime forests near Rio de Janeiro in Brazil, and imported and flowered by that admirable horticulturalist, W. Wilson Saunders, Esq., F.R.S., at his gardens near Reigate, in 1868. As a species, it is most distinct, of a very robust habit, the scapes being as thick as the finger, and bearing ten to thirteen flowers, of a fine clear blue-lilac colour, white in the centre.

These *Griffinias* are amongst the most charming stove *Amaryllideæ*, and if not so large and gaudy as the *Crinums* and *Pancratiums* of the Old World, are far more delicate in habit and colouring. The *G. dryades* was originally described by Vellozo in 1790, in his MSS. of the Flora of Rio de Janeiro, which was published in 1824 by Fr. Antonio d'Arrabida at Rio.

Descr. *Bulb* almost as large as the fist, broad, flat below. *Leaves* spreading, on stout long petioles as thick as the little finger, with closed sheathes at the base; limb leathery, a foot long and upwards, five to six inches broad, bright green,

oblong lanceolate, subacute, with many strong well marked nerves, and transverse reticulations. *Scape* thicker than the petiole, terete, one and a half feet high; bracts five to six, one to one and a half inches long, gradually tapering from a broad base, recurved. *Flowers* ten to thirteen; pedicels short, green, about one inch long. *Ovary* small, globose. *Perianth* four inches long by four and a half inches broad when fully expanded, tube cylindric, limb gibbous at the base, broadly funnel-shaped, lobes subequal, lanceolate, the lower shorter and narrower, the three upper approximate, each two and a half inches long by two-thirds of an inch broad, recurved, acuminate, of a fine blue-lilac colour, white in the middle and at the base. *Stamens* inserted at the mouth of the tube, the upper erect, the rest declinate. *Anthers* pale yellow. *Stigma* quite entire. *Fruit* (from Vellozo's drawing) as large as a chesnut.—*J. D. H.*

Fig. 1, Ovary, section of perianth-tube, stamens, and style; 2, transverse section of ovary; 3, a pair of ovules:—*all magnified.*



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Tab. 5787.

PHALERIA laurifolia.

Laurel-leaved Phaleria.

Nat. Ord. Thymeleæ.—Tetrandria Monogynia.

Gen. Char.—Perianthium hypocraterimorphum v. infundibuliforme, limbo subæquali 4-6-fido, fauce nuda. *Stamina* 8, biseriatim disposita, filamentis exsertis; antheræ adnatæ, connectivo crassiusculo. *Ovarium* sessile, 2-loculare, basi disco cupulæformi cinctum, glabrum; stylus terminalis, exsertus, stigmate capitellato; ovula in loculis solitaria, prope apicem septi appensa. *Drupa* ovoidea, nuda, sarcocarpio fibroso, 1–2-sperma. *Semina* exalbuminosa; cotyledones carnosæ.—Arbores fruticesve Moluccanæ. Folia *sparsa v. opposita, breviter petiolata.* Flores *capitati v. umbellati, terminales v. axillares.*—Phaleria, *Jack, in Malay. Misc.* v. ii. p. 59 (1822). *Hook., Comp. Bot. Mag.* v. i. p. 156. Drymispermum, *Reinwardt, Sylloge Nov. Pl. Ratisb.* 1828, p. 15, t. ii.

Phaleria *laurifolia;* foliis superioribus oppositis oblongo-lanceolatis acuminatis, corymbis terminalibus paucifloris, involucri foliolis paucis angustis inæqualibus, floribus extus pubescenti-pilosis 4–6-lobis.

Drymispermum laurifolium. *Decaisne in Ann. Sc. Nat., Ser.* 2, v. xix. p. 39, t. i. f. A. *Meissn. in D. C. Prod.* v. xiv. pt. 2, p. 604. *Miquel. Fl. Ind. Bat.* v. i. part 1. p. 885.

An evergreen stove shrub, remarkable for the delicious *Daphne*-like odour of its flowers. It was communicated to the Royal Gardens from Ceylon by our excellent correspondent, G. H. K. Thwaites, Esq., F.R.S., under the specific name given above, and under which he received it, I believe, from the Buitenzorg Gardens of Java. It is a native of Timor, but is closely allied to various Malayan island species. The genus *Phaleria* having been published and well described by Jack in 1822, takes precedence of Reinwardt's *Drymispermum*, which was not published till six years afterwards. The Malayan Miscellanies, printed at the Missionary press of Bencoolen in Sumatra, and of which the first volume, with many of Jack's descriptions, appeared in 1820, and the second in 1822, are unfortunately extremely rare in European libraries, but how they came to be ignored by the Dutch

botanists who were actively employed simultaneously in the neighbouring island of Java, is not easily explicable.

Descr. A shrub four to eight feet high, erect, evergreen. *Branches* covered with brown tough bark. *Leaves* four to five inches long; the upper opposite, lower alternate, very shortly petioled; oblong-lanceolate, acuminate, quite glabrous, shining. *Corymb* terminal, six to eight flowered; peduncle short, bracts linear-oblong or lanceolate, with tomentose apices and margins. *Flowers* sessile. *Perianth* pubescent, with scattered flaccid hairs; tube slender, two-thirds of an inch long; lobes four to seven, spreading and reflexed, very pale yellow. *Stamens* much exserted, in two approximate series. —*J. D. H.*

Fig. 1, Flower; 2, ditto with perianth laid open; 3, anther; 4, ovary and disc; 5, transverse section of ovary:—*all magnified.*

W Fitch del et lith

Tab. 5788.

STERIPHOMA PARADOXUM.

Paradoxical Steriphoma.

Nat. Ord. Capparideæ.—Octandria Monogynia.

Gen. Char. *Calyx* cylindraceo-campanulatus, apice 2-4-lobus, irregulariter ruptus, basi squamulis 4 auctus. *Discus* annularis. *Petala* 4, sessilia, toro inserta, 2 antica paulo majora. *Stamina* 6, cum petalis inserta, adscendentia; 2 postica breviora, filamentis longe exsertis. *Ovarium* oblongum v. cylindraceum, 2-loculare, ovulis ∞ 2-seriatis, stigmate sessili. Bacca globosa, angulata v. cylindrica, corticata, pulposa. *Semina* ∞, nidulantia, angulata; cotyledones spiraliter convolutæ. Frutices Americæ tropicæ. Folia 1-*foliolata*, *foliolo integerrimo*. Racemi *terminales*, *pedicellis apice refractis v. decurvis*, 1-*floris*. Flores *speciosi*, *aurantiaci*.

Steriphoma paradoxum; foliis oblongo-lanceolatis, caudato-acuminatis apicibus fere setaceis.

Steriphoma paradoxum. *Endl. ex Karst. Ausw. Gew. Venezuel.* p. 10, *cum icone. Planch. in Flore des Serres*, v. 6, t. 534, 535.

Stephania cleomoides. *Willd. Sp. Pl.* v. 2, p. 239. *D. C. Prodr.* v. 1, p. 253.

Capparis paradoxa, *Jacq.*, *Hort. Schoenb.* 1, p. 58, t. iii.

A beautiful stove-shrub, introduced into Europe so long ago as 1797, when it was figured by Jacquin from plants that flowered in the Imperial Botanic Gardens at Schœnbrunn (Vienna). In the Royal Gardens of Kew it has existed for many years, having been received from the Trinidad Botanic Gardens some forty years ago, and it flowers freely every year in a stove. My attention was drawn to the fact of its never having been figured in this Magazine by Dr. Moore, of Glasnevin Botanic Gardens, who sent beautiful flowering specimens in April of last year, from which the accompanying drawing was made. It is a native of the Caraccas and various parts of New Grenada.

Descr. A leafy shrub, four to ten feet high. *Branches* erect or ascending, slender, terete, woody, covered with furfuraceous pubescence. *Leaves* alternate, crowded towards

the ends of the branches, spreading and deflexed, four to seven inches long, oblong or ovate-oblong, rounded at the base, narrowed into slender acuminate points, furfuraceous below and above when young; petiole slender, furfuraceous, tumid at the apex. *Raceme* terminal, short, stout, dense-flowered, one to three inches long, rachis furfuraceous, tumid. *Flowers* imbricating; abruptly deflexed from the apex of the orange-yellow pedicels, which are one to one and a half inches long. *Calyx* bright orange, oblong-cylindric, two-thirds of an inch long, irregularly split half way down, covered like the pedicels with furfuraceous down. *Petals* hardly twice as long as the calyx, linear-oblong, pale yellow. *Stamens* five to seven, horizontal, slightly upcurved, pale yellow, three to four inches long. *Ovary* cylindric, on a curved gynophore. *Fruit* described as cylindric.—*J. D. H.*

Fig. 1, Petal; 2, receptacle and ovary:—*both magnified.*

W. Fitch del et lith.

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Tab. 5789.

APHELANDRA acutifolia.

Sharp-leaved Aphelandra.

Nat. Ord. Acanthaceæ.—Didynamia Gymnospermia.

Gen. Char. (*Vide supra*, Tab. 5463.)

Aphelandra *acutifolia;* glaberrima, caule sub-4-gono, foliis petiolatis oblongis acuminatis, basi in petiolum angustatis, spica terminali sessili, bracteis imbricatis ovato-oblongis acuminatis serratis ciliatis rigidis rachique puberulis, corolla glabra coccinea, labii inferioris lobis 3 oblongis obtusis, lateralibus patentibus, intermedio minore.

Aphelandra acutifolia. *Nees in D. C. Prodr.* v. 11, p. 299.

One of the most brilliant flowered of the beautiful genus to which it belongs, and apparently a common plant in South America, as I find specimens in the Herbarium from Mexico, Peru, New Grenada, and Surinam. The individual here figured was sent by Messrs. Veitch, of the Royal Exotic Nurseries, who imported it from South America, and with whom it flowered in October, 1868.

Descr. A glabrous erect shrub. *Stems* obscurely four-angled. *Leaves* four to eight inches long, membranous, glabrous, oblong-ovate, acuminate and much narrowed at the apex, entire, but when dried rather waved and almost crenate at the margin, narrowed at the base into a long or short petiole, sometimes two inches long; colour, a bright uniform green, glossy above, paler below. *Spike* terminal, sessile, erect, strict, four to six inches long, with the bracts two-thirds to one and a half inches broad; rachis pubescent. *Bracts* imbricating, two-thirds to one and a third inches long, ovate-oblong, acuminate, rigid, sharply serrate above the middle, minutely ciliate and finely pubescent on the back, strongly nerved, green with dull purple margins. *Flowers* one and a quarter to one and a half inches long, bright and deep vermilion red. *Calyx lobes* lanceolate, from a broad

base, gradually acuminate; bracts small, subulate. *Corolla* tube slender; limb flat, one and a half inches diameter; upper lip arched, very concave, subacute; lower longer, three-lobed; lateral lobes two-thirds of an inch long, spathulate-oblong, middle almost twice as large, and broader in proportion. *Ovary* pubescent at the apex; stigma minutely toothed.—*J. D. H.*

Fig. 1, Bract and flower, with corolla removed; 2, ovary:—both *magnified.*



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Vincent Brooks Day & Son Imp

Tab. 5790.

MYRCIA amplexicaulis.

Amplexicaul-leaved Myrcia.

Nat. Ord. Myrtaceæ.—Icosandria Monogynia.

Gen. Char. *Calycis* tubus turbinatus v. hemisphericus; limbi lobi 5, rarius 3 v. 4. *Petala* 5, rarissime 3 v. 4, patentia. *Stamina* ∞, ∞-seriata, libera, filamentis filiformibus; antheræ versatiles, v. fere basifixæ, loculis parallelis v. altero altius affixo, longitudinaliter v. oblique dehiscentibus. *Ovarium* 4-rarius 2-loculare; stylus filiformis, stigmate parvo; ovula in loculis gemina, collateralia. Bacca calycis limbo reliquiis coronata. *Semina* sæpius 1–2, subglobosa: radicula longiuscula, incurva v. cyclica; cotyledones contortuplicatæ. — Arbores fruticesve Americæ tropicæ *et* subtropicæ *incolæ*. Folia *opposita*, *pennivenia*. Flores *sæpius parvi*, *cymosi v. paniculati*.

Myrcia *amplexicaulis*; ramulis tomentosis et sericeo-strigosis, foliis amplis sessilibus basi lata cordatis amplexicaulibus oblongis acuminatis reticulato-costatis nervis plurimis arcuatis, paniculis brachiatis oppositis folio multo brevioribus, floribus fasciculatis, fasciculis remotis, antheris 2-locularibus linearibus loculis parallelis rimis longitudinalibus.

Eugenia amplexicaulis.—*Vellozo, Flor. Flum.*, v. 5, t. 44.

Gomidesia amplexicaulis.—*Berg, in Mart. Flor. Brazil.; Myrt.*, p. 13.

A very handsome Brazilian stove-shrub, remarkable for its fine evergreen persistent foliage. A native of the province of Rio de Janeiro, where it probably forms a bush or small tree, though it flowers freely in the stoves at Kew when only three to five feet high.

Berg, in his elaborate account of the Brazilian *Myrtaceæ*, in Von Martius' Flora of Brazil, describes the calyx-lobes of this plant as acute, from the wretched drawing in Flora Fluminensis, where they are incorrectly figured as acute on the plant of the natural size, but correctly as truncate in the enlarged analysis; Berg further states that the anthers are figured by Vellozo as those of a *Gomidesia* (viz. 4-celled); but I see no signs of this in the figure, nor in the live plant.

Descr. A shrub, covered everywhere with a soft velvety tomentum. *Branches* strict, erect, terete, stout; branchlets

as thick as a goose-quill. *Leaves* opposite, sessile, ten to sixteen inches long, narrow-oblong or linear-oblong, acuminate, downy on both surfaces, reticulated above, lateral nerves below numerous, very divergent, elevated. *Panicles* downy, from the upper axils, six to ten inches long; branches few, opposite, spreading. *Flowers* fascicled on the branches, sessile, three-quarters of an inch in diameter, calyx-tube turbinate; lobes five, short, transversely oblong, very obtuse, almost truncate. *Petals* orbicular, white. *Stamens* much larger than the petals, filaments linear, flexuous, much contracted at the very apex; anthers linear, cells slender, bursting longitudinally; style filiform.—*J. D. H.*

Fig. 1, Ovary and calyx; 2, transverse, and 3, vertical section of ovary; 4, stamen:—*all magnified.*



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Vincent Brooks Day & Son Imp.

Tab. 5791.

CYPRIPEDIUM PARISHII.

The Rev. Mr. Parish's Lady's Slipper.

Nat. Ord. Orchideæ.—Gynandria Diandria.

Gen. Char. (*Vide supra*, Tab. 5349.)

Cypripedium *Parishii ;* foliis distichis loriformibus coriaceis, apice obliquo obtuso v. 2-fido immaculatis, scapo elongato stricto pubescente 3-5-floro foliis multo longiore, bracteis late ovatis acutis ovario dimidio brevioribus, sepalis pallide viridibus lateralibus carinatis, dorsali late ovato subacuto, petalis sepalis 3-plo longioribus elongato-linearibus tortis sordide purpureis basi viridibus, marginibus undulatis verruceis paucis purpureis penicillatis ornatis, apicibus obtusis ciliatis, labello anguste oblongo basi rotundato ore paulo ampliato obliquo auriculis subacutis prominulis, staminodio 2-fido.

Cypripedium Parishii, *Reichb. fil. in Flora*, 1869, 322; and *Gard. Chron.* 1869, 814, cum ic. xylogr.

A superb species belonging to the Indian section of which *C. insigne* is the type, and was long the only known representative, but which section is now increased by several noble discoveries, including *C. lævigatum* (*Tab. nost.* 5508) and *C. Stonei* (*Tab.* 5349); to the former of these indeed, a native of the Philippines, *C. Parishii* is very closely allied, differing in the larger size, pale green unstriped dorsal sepal, obtuse tips of the petals, the pencilled warts on the margins of which are more prominent, in the form of the mouth of the obtuse-based lip, and in the shape of the staminode. *C. Parishii* was discovered in the Moulmayne mountains by the eminent amateur of this family, our energetic correspondent, the Rev. C. Parish, of Moulmayne, 1859, and refound in 1866, when he brought roots to his garden, which flowered in 1867. From this a drawing was made, and sent to Kew, with a noble dried specimen, bearing five open flowers, and to this Prof. Reichenbach has attached the name of its dis-

coverer. The specimen here figured flowered with Messrs. Veitch in July of the present year, and presented a spike no less than two feet long! Mr. Parish's dried specimen and flowers are quite as large as ours, and differ only in having a broader leaf (full two inches across) and a deep purple-tinted lip.

Desc. *Stem* four to eight inches high, leafy. *Leaves* eight inches long by two inches broad, coriaceous, exactly linear, bright green, obliquely rounded, and bifid at the apex. *Scape* one and a half to two feet high, stout, covered with villous hairs, three- to five-flowered. *Bracts* large, spathaceous, ovate, acute, green. *Ovary* and pedicel two inches long, covered with soft green villous hairs. *Sepals* spreading, pale green, two inches long by one to one and a half inches broad. *Petals* pendulous, four to five inches long, linear, twisted, purple with pale margins for the lower two-thirds of their length, apex rounded and pencilled, margin in the upper third greenish, waved, presenting here and there purple very prominent shining pencilled warts. *Lip* one and a half inches long, rounded at the base, green or purplish, mouth rather expanded with erect acute auricles. *Staminode* large, green, broadly oblong, bifid.—*J. D. H.*

Fig. 1. Staminode and stigma :—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Day & Son, Imp

Tab. 5792.

CEROPEGIA SANDERSONI.

Mr. Sanderson's Ceropegia.

Nat. Ord. Asclepiadeæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5306.)

Ceropegia *Sandersoni;* glaberrima, caulibus robustis elongatis volubilibus, foliis crasse petiolatis ovatis v. ovato-cordatis subacutis obtusisve carnosis, pedunculis brevibus crassis paucifloris, bracteolis parvis ovatis acutis, calycis lobis ovato-lanceolatis acuminatis, corolla albo-viridi magna ampla, tubo basi modice inflato curvo sursum valde ampliato late infundibuliformi translucido, lobis remotis in laminam horizontalem basi 2-lobam ciliatam dilatatis, laminibus in umbraculam latissimam 5-lobam 5-sulcatam connatis, coronæ stamineæ lobis exterioribus 0, interioribus elongatis erectis apicibus recurvis.

Ceropegia Sandersoni, *Decaisne in litt.*

This very striking and conspicuous-flowered plant, was discovered in July, 1867, by our active and able correspondent, John Sanderson, Esq., of Natal, in the Bush on the banks of a stream flowing into the Umgeni river in a stony soil; and by him a sketch was in the following year sent both to myself and to my friend M. Decaisne, who provisionally gave it the above name,—a richly-deserved compliment to its excellent and liberal discoverer. In 1868 live specimens were transmitted in a Ward's case by Mr. Sanderson to Kew, and these having gone on flowering abundantly, from the month of May till the present time, enable me to figure it here. In habit *C. Sandersoni* differs altogether from its congeners, as it does in its stout stem like that of a *Vanilla*, its succulent leaves, and the remarkable structure and colour of its semi-transparent flower capped by the curious broad lobed hood of mottled green, which bears near the margin a series of erect white flat hair-like processes.

September 1st, 1869.

Descr. A lofty glabrous climber. *Stems* stout, succulent, as thick as a goosequill, twining, and sparingly branched. *Leaves* small and distant for the size of the plant, shortly stoutly petioled, one and a half to two and a half inches long, ovate-cordate, obtuse, thick and succulent, nerveless, deep green like the stems. *Peduncles* axillary, short, curved, stout, terete, bright green, three- to four-flowered. *Bracteoles* small, subulate. *Pedicels* short. *Calyx-lobes* subulate, quarter of an inch long, green. *Corolla* two and a half inches long, curved at the base, two inches broad across the top; tube slightly inflated and green at the base, expanding into a funnel-shaped, five-angled, transparent limb, with opaque green reticulated veins; this presents five short distant lobes on its margin, which bears the five curious horizontal appendages that together form the umbraculiform cap to the flower: this cap is bright verdigris-green, pitted on the surface and formed of five confluent convex lobes with a conical central papilla, each lobe is two-lobed at its outer margin, and the margins are turned up and bear a series of transparent flat erect hairs within the border. *Staminal corona* yellow, terminating in five erect strap-shaped connivent processes with recurved apices.—*J. D. H.*

Fig. 1, Staminal corona; 2, pollini:—*both magnified.*



W. Fitch del. et lith.

Tab. 5793.

ACER RUFINERVE; var. *albo-limbata*.

Red-nerved Maple,—white-bordered variety.

Nat. Ord. Sapindaceæ.—Polygamia Octandria.

Gen. Char.—*Flores* sæpissime polygamo-diœci. *Calyx* sæpius 5-partitus, deciduus, imbricatus. *Petala* 0 v. lobis calycinis isomera. *Discus* annularis, lobatus. *Stamina* sæpius 8, disco inserta, filamentis filiformibus. *Ovarium* 2-lobum, 2-loculare, septo contrarie compressum; styli 2, inter lobos ovarii inserti, filiformes, intus longe stigmatosi; ovula in loculis 2, superposita v. collateralia. *Samaræ* 2, divaricatæ, 1–2-spermæ, longe alatæ, alis elongatis oblique dilatatis. *Semina* adscendentia, compressa, testa membranacea, endopleura carnosa; embryo conduplicatus.—Arbores *succo aqueo, rarius saccharato, rarissime lacteo.* Folia *opposita, decidua, integra lobata v. subpedatim* 5–7*-partita.* Flores *racemosi v. corymbosi, axillares et terminales.*

Acer *rufinerve;* foliis e basi cordato, palmato, 3–5-lobis argute duplicato serratis superne glabris, subtus ad nervos rufo-lanatis demum glabratis, lobis deltoideis abrupte caudato-acuminatis lateralibus brevioribus, racemis simplicibus multifloris, floribus breviter pedicellatis, sepalis oblongis petalis obovatis paulo brevioribus ovarioque glabris, samaræ alis late cultratis rotundatis adscendentibus.

Acer rufinerve, *Siebold et Zuccarini, Fl. Japon.* v. ii. t. 158, *ined. ex. Fl. Jap. Fam. Nat.*, Sect. i. p. 47. *Miquel Prolus. Fl. Japon.* p. 20, *et* "*Sur les Erables du Japon*," *in Archives Nēerlandaises*, v. ii. 1867.

Var. *albo-limbata;* marginibus foliorum albo marmoratis.

The Japanese Maples, of which many species are now to be found in our gardens in a young state, are amongst the most beautiful novelties of late introduced into the Arboretum, for that many of them will prove as hardy as their fellow-countrymen, the *Salisburia*, *Sophora japonica*, and *Aucuba*, can no longer be doubted. Our figure represents one of the noblest of these in foliage, and a very remarkable variety of it, exhibiting that variegation so frequent amongst Japan

plants, and which the Japanese themselves so sedulously encourage in their gardens and pleasure grounds.

Acer rufinerve is a native of Nagasaki and Yokohama, two widely-separated localities, with very different climates; and there are specimens of the white-bordered variety in the Kew Herbarium, collected by the eminent Russian traveller and botanist, Maximowicz, in the town of Jedo. The figured specimen is from the nurseries of Mr. Standish, and was exhibited at the Horticultural Society in May of the present year.

Descr. A large tree. *Branches* stout; branchlets, peduncles, petioles, and often midrib of the leaf below pale red. *Leaves* palmately three- to five-lobed, cordate at the base, three to five inches long and broad; rufous-pubescent or woolly below on the nerves when young, glabrous when old, lobes broadly ovate or triangular abruptly cordate-acuminate, doubly serrate, deep green, mottled along the border with white; petiole one to one and a half inches long. *Racemes* pendulous; flowers green, quarter of an inch in diameter. *Calyx-lobes* obovate-oblong. *Petals* broadly obovate, crenate. *Stamens* eight. *Fruiting raceme* lengthened. *Samaras* one to one and a half inches across the pair; wings slightly falcate, rounded at the apex.—*J. D. H.*

Fig. 1, Flower; 2, the same seen from the outside; 3, stamen; 4, fruit:—*all but* fig. 4 *magnified.*



2.



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W. Fitch, del. et lith.

Vincent Brook[illegible] & Son Imp.

Tab. 5794.

PRIMULA pedemontana.

Piedmontese Primrose.

Nat. Ord. Primulaceæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5528.)

Primula *pedemontana;* foliis oblongis obovatisve obsolete repando-dentatis glanduloso-ciliatis junioribus convolutis subcarnosis lævibus, scapo pedicellisque glandulis brevissime stipitatis viscosis adspersis, involucri bracteis parvis late oblongis obtusis pedicellis multo brevioribus, corolla lobis obcordatis, fauce esquamato non farinoso, staminibus sexus brevistyli paulo infra medium tubi insertis, capsula calycem æquante.

Primula pedemontana, *Thomas. Plant. exsicc.*, *Koch. Synops. Flor. Germ. et Helvet.*, Ed. 2. p. 675.

One of a lovely series of Swiss Alpine Primulas of the Auricula group, which includes P. *pubescens*, Jacq., *rhætica*, Gaudin and *villosa*, Jacq., and which are distinguished from one another by such slight characters that continental authors are not altogether of one accord as to their limits Reichenbach (Ic. Crit. vol. vii. p. 17. t. 856-7), considering them as one species, and Koch keeping them distinct. It is a native of the high Alps of Piedmont and Switzerland, and one of the most lovely plants of those regions. The specimen figured bloomed profusely in the Royal Gardens in April of the present year, from roots received from Messrs. Backhouse, of York. The flowers vary a good deal in colour in the native state, those here figured are of the clearest and brightest rose-purple that can well be imagined.

Desc. *Rosettes* of leaves two to three inches in diameter, appressed to the ground. *Leaves* one to one and a half inches long, oblong or obovate, hardly petioled enough to be spathulate, obtusely sinuate, toothed, covered and fringed with glandular viscid hairs, deep green with a paler midrib. *Scapes* stout, two to four inches high, very many-flowered, viscidly

pubescent. *Involucral leaves* very short, ovate or oblong, obtuse, appressed. *Flowers* numerous, usually forming a dense head; pedicels strict, viscid, much longer than the involucral bracts. *Calyx-tube* oblong-cylindric, viscid, teeth short, rounded. *Corolla* rose-purple, tube much longer than the calyx, half an inch long; limb one inch diameter; throat naked, yellow, without farina or scales, lobes obcordate, not deeply lobed. *Stamens* in the short-styled form inserted shortly below the mouth of the corolla. *Ovary* globose. *Capsule* as long as the calyx.—*J. D. H.*

Fig. 1, Flower; 2, calyx cut open, showing the ovary:—*magnified*.



W. Fitch del et lith

Vincent Brooks Day & Son Imp

Tab. 5795.

DORSTENIA argentata.

Silvered-leaved Dorstenia.

Nat. Ord. Moreæ.—Monœcia Diandria.

Gen. Char.—*Receptaculum* carnosum, concavo-planum. *Flores* plurimi i alveolis receptaculi, masculi femineis mixti. Masc. *Alveoli* superficiales. *Perigonium* 0 v. lobi 3 ad orem alveoli. *Stamina* 1 v. plura, filamentis filiformibus; antheræ 2-loculares, globoso-didymæ. Fem. in foveolis receptaculi solitarii. *Perigonium* 0. *Ovarium* breviter stipitatum, ovatum, 1-loculare; stylus lateralis, filiformis, stigmate 2-fido; ovulum 1, parieti styligeri appensum. *Utriculi* demum circumscissi, receptaculo subsucculento immersi. *Semen* uncinatum, testa crustacea; embryo uncinatus.—Herbæ Americæ tropicæ *incolæ*, *acaules v. caulescentes*. *Folia* varia, radicalia v. caulina et alterna. *Capitula* scapos radicales v. pedunculos axillares terminantia.

Dorstenia *argentata* : caule e basi radicante prostrato erecto puberulo folioso purpurascente, foliis alternis breviter petiolatis oblongis v. anguste lanceolatis, apice attenuato obtuso apiculato, obscure sinuato-dentatis, supra et subtus ad nervos patentes puberulis siccitate scabridis, disco supra late irregulariter argentatis margine saturate viridi, petiolo brevi costaque subtus fusco-purpureis, stipulis subulatis persistentibus, pedunculis axillaribus, receptaculis, orbicularibus pubescentibus leviter concavis margine processibus brevibus subcapitellatis ornato, alveolis disci femineis marginis masculis monandris, perigonii lobis 3.

A remarkably pretty variegated-leaved stove plant, a native of South Brazil, for which the Royal Gardens are indebted to Mr. Wilson Saunders, F.R.S., of Reigate. It is not described by Miquel in the monograph of the Brazilian species, which has appeared in Martius's Flora Brasiliensis, but there are dried specimens in the Kew Herbarium sent by Dr. Fritz Müller, of Sta. Catherine, South Brazil.

Descr. *Stem* nearly simple, terete, horizontal and rooting for a foot or so, sending up few ascending simple leafy branches six to twelve inches high; branches dull purple, terete, pu-

bescent, almost as thick as a goosequill. *Leaves* numerous, alternate, three to five inches long, oblong- or narrow-lanceolate, narrowed above to an obtuse apiculate tip, and below into the petiole, sinuate-toothed, deep green at the margins, with a broad central silvery zone which is marbled with green at the juncture of the colours, scabridly puberulous above and beneath on the nerves which spread widely from the costa, petiole half an inch to one inch long and midrib below purple; stipules persistent, small, subulate. *Peduncles* axillary, half an inch to one inch long, stout, dull purple, puberulous, suddenly expanding into the peltate orbicular slightly concave receptacle, which is dark green, three-quarters of an inch to one inch in diameter; margin furnished with a series of short obtuse purple capitate conical tubercles, each tipped with a few short hairs. *Flowers of the disc* all female, immersed in simple alveoli. *Ovary* flagon-shaped; styles two, recurved. *Outer flowers* male, in few series; the mouth of the alveoli furnished with three broadly ovate, short, green incurved perianth-lobes. *Stamens* three, surrounding a conical papilla (a rudimentary ovary).—*J. D. H.*

Fig. 1, Receptacle: 2, vertical section of the same:—*both magnified.*


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Tab. 5796.

DROSOPHYLLUM lusitanicum.

Portuguese Yellow Sundew.

Nat. Ord. Droseraceæ.—Octandria Pentagynia.

Gen. Char.—*Calyx* 5 partitus, foliolis oblongis imbricatis. *Petala* 5, hypogyna, patentia, nervosa. *Stamina* 10–20, hypogyna, filamentis filiformibus; antheræ oblongæ, extrorsæ. *Ovarium* ovoideum, 1 loculare; styli 5, filiformes, stigmatibus capitatis; ovula numerosa, placentæ basilari affixa. *Capsula* conica, chartacea, 1-locularis, ad medium 5-valvis, polysperma. *Semina* majuscula, obovoidea, funiculo elongato, testa crassa; embryo in basi albuminis densi semi-immersa, minima. Fruticulus *pedalis*, *caule brevi*, *totus pilis grosse capitato-glandulosis viscidus*. Folia *confertim alterna*, *elongato linearia*, *apice attenuata*, *vernatione circinatim revoluta*. Flores *corymbosi*, *ampli*, *sulphurei*. Capsula *exserta*, *erecta*.

Drosophyllum lusitanicum, *Linn.* *D. C. Prod.* i. 320. *St. Hil. in Mem. Mus.* ii. 124, t. 4, f. 13.

This almost shrubby representative of the Sundews of our bogs and moors is one of the most singular plants of the European Flora; it differs from its ally *Drosera*, not only in habit and size, and in some very curious points of structure, as the numerous stamens, entire styles and basilar placentæ, but in the nature of the glandular hairs, which have rigid pedicels that are not endowed with the motive power of those of the English Sundews, which curve towards their prey when once it is entangled. A still more anomalous character is to be found in the way the leaves are developed in the bud, being circinate and *revolute*, not involute as in our *Droseras*, in Ferns, Cycads, and other plants; and of this mode of development *Drosophyllum* is, in so far as I know, the only example in the vegetable kingdom.

Drosophyllum is a native of Spain, Portugal, and Mauritania, inhabiting sandy shores and dry rocks, by the sea and

inland. The Royal Gardens are indebted to M. Goeze, of the Botanical Gardens of Coimbra, for seeds and living plants; as also to Mr. Darwin, to whom they were sent by Mr. G. Maw, who collected them himself on the coast of Marocco. The plant flowered at Mr. Darwin's and at Kew in April of the present year.

Descr. Whole plant, except the leaf-base, inside of sepals, petals, stamens and ovary, covered with purple, pedicelled, viscid glands. *Stem* woody, two to three inches high, as thick as the little finger, rough with the old leaf bases. *Leaves* crowded at the top of the stem, four to eight inches long, spreading, one-eighth of an inch broad, gradually narrowed to the apex. *Flowering stem* leafy, stout, a foot high. *Flowers* in a lax corymb, erect, one and a half inches in diameter; branches distant, flexuous, bracteate at the forks; bracts linear, quarter to half an inch long, pedicels one to three inches long, stout. *Sepals* one-third of an inch long, oblong, acute. *Petals* obovate, spathulate, bright pale yellow, membranous, twisted after flowering. *Stamens* usually ten, alternate longest; anthers short, yellow. *Ovary* oblong, one-celled; styles usually five, stigmas capitate; ovules anatropous, crowded on a central receptacle. *Capsule* three-quarters of an inch long, narrow ovoid, coriaceous, glossy, five-valved. *Seeds* compressed.—*J. D. H.*

Fig. 1, Portion of leaf and gland; 2, gland; 3, sepals, stamen and pistil; 4, petal; 5, stamen; 6, ovary; 7, transverse, and 8, vertical section of ditto: —*all magnified.*



W.Fitch. del et lith.

Vincent Brooks Day & Son Imp.

TAB. 5797.

MACKAYA BELLA.

Natal Mackaya.

Nat. Ord. ACANTHACEÆ.—DIANDRIA MONOGYNIA.

Gen. Char.—*Calyx* parvus, ebracteolatus, equaliter 5-partitus, laciniis subulatis. *Corollæ* tubus cylindraceus, limbus ampliatus oblique campanulatus, venosus, subæqualiter, 5-lobus, lobis patentibus. *Stamina* circa apicem tubi inserta; duo fertilia antheris sagittatis bilocularibus subæquilateris pilosis; duo inferiora ananthera filiformia. *Stylus* filiformis; stigmate minute bifido. *Ovarium* loculis medio bi-ovulatis. *Capsula?*—Frutex *gracilis, inermis.* Folia *supra minute punctata, sinuato—dentata. Racemi terminales, laxe secundiflori, bracteis bracteolisque infra medium pedicellorum minimis. Flores magni, speciosi, lilacini.* Harv. Thes. Cap. Tab. xiii.

MACKAYA bella, *Harvey in Proc. Dubl. Univ. Zool. et Bot. Ass. ined. Thesaurus Capensis*, t. xiii. *T. Anderson, in Journ. Linn. Soc.* v. vii. p. 18 and 53.

This most beautiful Acanthaceous plant was dedicated by the late Professor Harvey, of Dublin, to his old friend, Dr. J. T. Mackay, Keeper of the Dublin University Botanic Garden, and author of "The Flora Hibernica;" it is a native of the bed of the Tongat river, Natal, where its discoverer, Mr. J. Sanderson, describes it as "a beautiful shrub, one mass of most delicate pendant, pale lilac, campanulate flowers." For living specimens the Royal Gardens are indebted to its discoverer, and to Mr. McKen, of the D'Urban Botanic Gardens. It flowered in the Palm House in May of the present year.

DESCR. A tall, slender, nearly glabrous shrub, with virgate branches. *Leaves* on short petioles, patent, ovate-oblong, two to four inches long, glabrous, but minutely granulated on the upper surface when dry, sinuate-toothed, apex contracted, obtuse or acuminate, veiny. *Racemes* four to six

inches long, many-flowered, terminal, unilateral; bracts opposite, minute, subulate; pedicels two to three lines long, cernuous, bracteolate at a line from the base. *Flowers* secund, erect. *Calyx* continuous with the pedicel, equally five-partite, with narrow subulate segments. *Corolla* nearly two inches long, pale lilac, throat with most delicately pencilled reticulated purple veins, of thin membranous substance, tubular below, campanulate upwards, with a deeply five-lobed, subequal, spreading limb; the segments oblong, obtuse. *Stamens* inserted at the top of the narrow tube of the corolla, shorter than the limb; two perfect, with sagittate, pilose, equal-sided, two-celled anthers; two reduced to filaments, nearly as long as the others, without anthers. *Style* filiform, with a minute, bifid stigma; ovary bilocular, with two ovules in each cell. *Capsule* unknown.—*J. D. H.*

Fig. 1, Corolla laid open; 2, stamen; 3, calyx and style; 4, ovary:—*all magnified.*



W Fitch del et lith

Vincent Brooks Day & Son Imp.

Tab. 5798.

ÆRIDES japonicum.

Japanese Ærides.

Nat. Ord. Orchideæ.—Gynandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5138.)

Ærides *Japonicum ;* foliis brevibus lineari-oblongis recurvis carinatis apice oblique bilobis, racemis 6–10-floris, sepalis oblongis obtusis albo-viridibus, petalis consimilibus, labelli laciniis posticis brevibus plicatis intermedio obovato spathulato basi saccato apice rotundato crenulato medio obtuse carinato carina crassa tumida lævi alba violaceo-maculata, calcare brevi infundibuliforme obtuso adscendente, columna subelongata, anthera rostrata.

Ærides Japonicum, *Linden et Reichb. fil. in Hamburg Garten- und Blumenzeit*, ann. 1863, p. 210.

The presence of *Ærides* in so high a northern latitude as Japan is a remarkable fact in Botanical Geography, as testifying to the warmth of the southern coasts of that Archipelago, and to the extension of a Malayan type of vegetation to so high a parallel. As a species *A. Japonicum* is compared by Reichenbach with *A. radicosum*, A. Rich. (*Saccolabium Wightianum*, Lindl.), from which it differs in habit, but which it resembles in the form of the lip.

Ærides Japonicum was originally introduced from Japan by Mr. Linden of Brussels in 1862, and more recently by Messrs. Veitch, with whom the plant from which the present figure was taken flowered in June of this year.

Descr. *Stem* very short. *Leaves* six to eight, two to three inches long, three quarters to one inch broad, recurved, linear-oblong, keeled, unequally two-lobed at the apex, dark green above. *Raceme* six inches long, flowers distant, one and a half inches from the tip of the lip to that of the back sepal, bracts short. *Sepals* and petals nearly half an inch long, oblong, obtuse, greenish-white; lateral sepals with dull

brown-purple bars towards the base. *Basal lobe* of lip oblong, with two short plaited lobes and an intermediate spinous process placed over the mouth of the spur; terminal lobe obovate-spathulate, crenate, concave and gibbous below, white, with a raised, dark violet, smooth, median ridge, and a few paler violet spots. *Spur* short, funnel-shaped, obtuse, the point reaching half the length of the lip, to the gibbosity at the back of which it points. *Column* one third of an inch long, incurved. *Anther* beaked. *Pollinia* globose; caudicle short.—*J. D. H.*

Fig. 1, Column and anther; 2, pollinia; 3, lip and spur; 4, anterior view of lip:—*all magnified.*



W. Fitch, del et lith.

Vincent Brooks Day & Son, Imp.

Tab. 5799.

NERTERA depressa.

Depressed Nertera.

Nat. Ord. Rubiaceæ.—Tetrandria Monogynia.

Gen. Char.—*Flores* hermaphroditi. *Calycis* tubus ovoideus; limbus truncatus v. obscure 4-dentatus. *Corolla* tubulosa v. infundibuliformis, 4-loba. *Stamina* 4; filamenta basi corollæ inserta; antheris exsertis. *Ovarium* 2-loculare; loculis 1-ovulatis. *Styli* 2, elongati, exserti, undique piloso-stigmatiferi. *Bacca* globosa, carnosa, dicocca; coccis coriaceis, 1-spermis. *Semina* plano-convexa, intus sulcata.—Herbæ *parvæ, repentes*; foliis *sempervirentibus*; stipulis *intrafoliaceis*; floribus *axillaribus, subsessilibus.*

Nertera *depressa*; glaberrima, caulibus repentibus, ramulis suberectis v. demissis, foliis petiolatis late ovatis acutis, calycibus ovariisque glaberrimis, embryone majusculo.

Nertera *depressa*, *Banks and Sol. in Gærtn. Fruct.* v. i. p. 124, t. 26. *D.C. Prod.* v. iv. p. 451. *Smith, Ic. ined.* v. ii. t. 28. *Hook. f. Fl. Tasm.* v. i. p. 167. *Handbook of New Zealand Flora*, p. 120.

Nertera repens, *Ruiz and Pav. Fl. Peruv.*, v. i. p. 60, t. 90.

Erythrodamum alsinæforme, *Pet. Thouar, Fl. Trist. d'Acunha*, p. 42. t. 10.

Gomozia granatensis, *Mutis in Linn. fil. Suppl.* p. 29.

Though when in flower one of the most insignificant of flowering plants, when covered with its translucent orange fruit, which it keeps for a long period, this is one of the most charming of rockwork plants. It is a native of the bleak cold Antarctic mountains throughout the southern hemisphere, where I have gathered it in Lord Auckland and Campbell Islands, the Falkland Islands, and Cape Horn; it also inhabits Tristan d'Acunha, the mountains of New Zealand and Tasmania, and follows the Andes from Cape Horn to New Grenada.

The specimen here figured flowered in June, and fruited in

October 1st, 1869.

August, 1868, and remained in fruit during a good part of the winter. It was communicated to the Royal Gardens by Mr. Niven, from the rich herbaceous collection of the Botanic Gardens of Hull.

Descr. A low, depressed, densely tufted herb, covered with minute yellow-green flowers, succeeded by globose, bright orange-red berries. Almost glabrous in every part. *Stems* creeping and rooting, densely tufted, six to ten inches long, tetragonous. *Leaves* one-sixth to one-third of an inch long, broadly ovate, acute or obtuse, coriaceous or almost fleshy; petioles as long as the blade or shorter. *Stipules* very small. *Flowers* solitary, minute, sessile, one-tenth of an inch long, probably subunisexual, one sex having long stamens and short styles, the other the reverse. *Calyx-limb* four-toothed. *Corolla* funnel-shaped, green with four short spreading lobes. *Stamens* four, filaments flattened. *Ovary* two-celled, styles slender, papillar all over; ovules one in each cell. *Fruit* globose, bright orange, translucent, size of a small pea, most abundantly produced, each with two plano-convex coriaceous one-seeded cocci.—*J. D. H.*

Fig. 1, Tip of branch with leaves and flower; 2, corolla laid open; 3, stamen; 4, ovary; 5, vertical section of ditto; 6, tip of branch and fruit; 7, transverse section of ditto; 8, cocci:—*all highly magnified.*



W Fitch, del et lith

Vincent Brooks Day & Son. Lith

Tab. 5800.

BIGNONIA purpurea.

Nat. Ord. Bignoniaceæ.—Didynamia Angiospermia.

Gen. Char.—*Calyx* margine 5-dentatus, rarius integer aut 5-partitus aut 2–3-lobus. *Corolla* bilabiata aut subæqualis, 5-fida. *Stamina* 4 fertilia, didynama, quinto sterili. *Antheræ* loculis glabris, sæpissime discretis. *Stigma* bilamellatum. *Capsula* valvis vix convexis planisve, septo plano valvis parallelo. *Semina* ad quodque septi latus uniseriata, utrinque alata, alâ pellucida.—Caules *nunc frutescentes arboresve erecti, nunc fruticoso-scandentes.* Folia *fere ubique opposita, petiolata, sed cæterum valde varia.* Flores *sæpe speciosi.*

Bignonia *purpurea*, glaberrima, foliis breviter petiolatis 2-foliolatis petiolo sæpissime in cirrhum producto, foliolis oblongis obtusis v. subacutis recurvis breviter petiolatis, floribus inaxillis foliorum 2-nis, breviter pedunculatis, pedunculis basi minute bracteolatis, calyce tubuloso campanulato, ore plicato plicis in dentes 5 conicos breviter productis, corollæ pallide lilacinæ fauce albo tubo infundibuliforme, limbi lobis obovato-rotundatis, ovario tuberculato.

Bignonia purpurea, *Lodd.* *D. C. Prod.* v. ix. p. 171 (name only).

This magnificent stove climber has long been cultivated in the Palm House at Kew, and is no doubt the *Bignonia purpurea* of Loddiges' catalogue, an undescribed plant, of which there is a named specimen in the Hookerian Herbarium, collected in the Liverpool Botanical Garden, probably thirty years ago.

As a species *B. purpurea* is closely allied to *B. speciosa*, Hook. (Tab. nost., 3888), a native of Uraguay, resembling it altogether in habit and foliage, and in size and colour of the flower, but differing in the longer calyx, with short conical teeth, and narrower corolla tube.

Descr. A lofty glabrous climber. *Stem* slender. *Leaves* bifoliolate; petioles short, one-third of an inch long, sometimes ending in a long flexuous tendril; leaflets two and a half to three and a half inches long, obovate-lanceolate,

abruptly narrowed to an acute point, bright green above, paler below, their petioles one quarter of an inch long. *Flowers* in pairs in the axils of the leaves, pedicels half an inch long, with minute subulate bracts at the base. *Calyx* one-third of an inch long, tubular-campanulate, plaited at the mouth, with five short, obtuse, conic teeth. *Corolla* mauve, with a large white eye, tube funnel-shaped, one inch long, lobes nearly equal, rounded, mouth transverse. *Stamens* and style included, glabrous. *Ovary* upon a small disc, ovoid, tuberculate, two-celled ; cells with two rows of horizontal ovules.—*J. D. H.*

Fig. 1, Calyx and style; 2, base of corolla throat, showing the stamens; 3, anther; 4, ovary; 5 and 6, vertical and transverse section of ditto:—*all magnified.*



W. Fitch, del. et lith.

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Tab. 5801.

COTYLEDON SALZMANNI.

Salzmann's Cotyledon.

Nat. Ord. Crassulaceæ.—Decandria Pentagynia.

Gen. Char.—*Calyx* 5-partitus, corollæ tubo æqualis v. brevior. *Corollæ* tubus angustus v. amplus, urceolatus v. cylindricus, teres v. 5-gonus, limbi lobis parvis patentibus. *Stamina* 10 (rarissime 5), tubo corollæ inserta, filamentis filiformibus brevibus v. elongatis; antheræ oblongæ, exsertæ v. inclusæ. *Squamulæ* lineares, oblongæ v. quadratæ, nunc latiores quam longæ. *Ovarii* carpella 5, libera, in stylos filiformes v. subulatos sæpe exsertos attenuata, stigmatibus oblique capitellatis; ovula in carpellis ∞. *Folliculi* ∞-spermi.—Herbæ *v.* suffrutices *ramosæ v. subscapigeræ, habitu valde variæ.* Folia *opposita v. alterna, sessilia v. petiolata, sæpe crassissime carnosa, in paucis peltata, sparsa v. rosulata.* Flores *erecti v. penduli, parvi majusculi v. ampli, spicati racemosi v. cymosi, nunc speciosi.* Corollæ *lobi æstivatione torti.* Benth. and H. f. Gen. Plant. i. 659.

Cotyledon *Salzmanni*; radice annua, ramis cymosis glanduloso-hirtis, foliis subulato-lanceolatis acutiusculis glandulosis teretibus, sepalis 5 parvis acutis hirtellis, corolla calyce plus sextuplo longiore ad tertiam partem usque profunde 5-fida, tubo subconico extus hirtello, limbi subpatuli lobis ovatis apiculatis mucronulatis flavis apice brunneis et brunneo sparse punctatis, stylis et staminibus subæqualibus exsertis.

Cotyledon (Pistorinia) Salzmanni, *Boiss. Voy. in Esp.* p. 224, t. 63, *fig. B. Walp. Rep.* ii. 258.

A more beautiful rock plant of the kind than this can scarcely be imagined. It is literally a mass of brilliant golden blossoms, relieved by the red-brown spots at the tips of the corolla lobes, which give them the appearance of being forked at the apex. The foliage, too, is of a brilliant green translucid texture relieved with blood-red streaks. I have referred it with some doubt to Boissier's Mogador plant, the dried specimens of which are but one and a half inches high, and am far from satisfied that it is not a form of *C. hispanicum*, Desff.

October 1st, 1869.

The Royal Gardens are indebted for this beautiful plant to G. Maw, Esq., who collected it at Tangiers in the early spring of the present year, and transmitted it to Kew with many other most interesting herbaceous plants: it flowered in the month of July.

Descr. Annual, covered with glandular hairs, tufted. *Stem* stout, inclined, ascending, as thick as a crow-quill, leafy, excessively corymbosely branched at the top. *Leaves* half an inch to two-thirds of an inch long, spreading, curved, very thick and fleshy, terete, obtuse, green, covered with short red streaks, tips red-brown. *Flowers* most abundantly produced, shortly pedicelled. *Calyx-lobes* lanceolate, one-third of an inch long. *Corolla* between funnel- and salver-shaped, golden yellow, tube half an inch long, streaked with red, lobes spreading, ovate, apiculate, golden yellow, with red-brown tips and scattered spots. *Stamens* on the throat of the corolla, exserted. *Hypogynous glands* slender, linear, bifid. *Carpels* very slender, with diverging filiform styles.—*J. D. H.*

Fig. 1, leaf; 2, flower; 3, corolla, tube, and stamens; 4, anther; 5, ovary and scales:—*all magnified.*



W. Fitch, del. et lith

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Tab. 5802.

MORMODES GREENII.

Mr. Charles Green's Mormodes.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char.—*Sepalum* superius fornicatum angustum; lateralia conformia reflexa. *Petala* sublatiora conformia. *Labellum* sellæforme, ascendens, trilobatum, subcuneatum, apiculatum v. lineare apice dilatato cucullato cum columna articulatum. *Columna* semiteres; clinandrium postice acuminatum. *Pollinia* 4, per paria connata, caudiculæ crassæ affixa, glandulæ carnosæ crassæ adhærentia.—*Herbæ* Americæ *tropicæ incolæ*. Pseudobulbæ *oblongæ*. Folia *elongato-lanceolata, sæpius plicata, membranacea*. Flores *numerosi, in racemos sæpius pendulos dispositi, speciosi v. luridi*.

Mormodes *Greenii*; pseudobulbis ovoideo-cylindricis subancipitibus, foliis subtus glaucis elongato-lanceolatis pedalibus, racemo magno pendulo longe pedunculato multifloro, sepalis petalisque subæqualibus patentibus ovato-oblongis auctis subconcavis extus pallidis intus flavis creberrime rubro-maculatis, labello e basi lineari incurvo apice in laminam cucullatam fimbriatam acuminatam dilatato.

This noble species was flowered by our friend Mr. W. Wilson Saunders, F.R.S., from imported bulbs purchased at one of Stevens' sales. It seems to differ entirely from any species hitherto published, and I have dedicated it to Mr. Charles Green, one of the most accomplished and skilful of English gardeners, who for many years managed the immense collection of herbaceous plants cultivated by the late Mr. Borrer, and since then has cultivated with equal skill the very different and far richer and more varied horticultural collections of the Macænas of scientific gardeners, Mr. W. Wilson Saunders, of Reigate. The specimen here figured flowered in June, 1869, and exhaled a powerful aromatic odour.

Descr. *Pseudo-bulbs* broadly fusiform, somewhat two-edged. *Leaves* narrow-lanceolate, one to one and a half feet long,

gradually acuminate, dark green above, paler and glaucous beneath. *Raceme* very large, pendulous, many-flowered; peduncle one foot long. *Flowers* horizontal, two and a half inches diameter, whitish externally; perianth lobes ovate, subacute, the outer rather smaller, one and a half inches long, somewhat concave, inner surface pale yellow, entirely covered with oblong dark-red spots. *Lip* curved upwards, rather longer than the perianth-lobes, narrow, gradually dilated from a linear fleshy base quarter of an inch broad, to a very concave or saccate incurved orbicular mucronate apex, which is irregularly toothed on the margin; base of lip dark purple, rising into two calli; inner surface yellow with red streaks; outer covered with spots like the perianth segments, except on the dilated apex, which is a dirty lilac. *Column* short, green inside, curved, so that the ovate acuminate anther comes under the concave apex of the lip.—*J. D. H.*

Fig. 1, Column and lip:—*magnified*.



W Fitch, del. et lith.

Vincent Brooks, Day & Son Imp.

Tab. 5803.

VELLOZIA elegans.

Natal Vellozia.

Nat. Ord. Velloziæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5574.)

Vellozia *elegans;* caule pedali gracili erecto, foliis ensiformibus racemosis carinato-complicatis multinervis acuminatis apices versus cartilagineo-serrulatis, scapis 3–5-floris, pedicellis valde elongatis filiformibus, ovario 3-quetro glaberrimo, perianthii albi foliolis subæqualibus oblongis obtusis demum excrescentibus viridibus, staminibus 6 subsessilibus, antheris linearibus obtusis, stylo brevi, stigmate oblongo-cylindraceo 6-sulcato obtuso, seminibus teretibus elongatis curvis.

Vellozia elegans, *Oliver MSS. ex Balfour in Trans. Bot. Soc. Ed.* v. ix. pp. 79 and 189.

Talbotia elegans, *Balfour, l. c.* 192, *name only.*

Our first knowledge of this plant was derived from a specimen brought from his garden by the Hon. H. Fox Talbot, F.R.S., to the Kew Herbarium, in 1866, and which was raised from seed procured either from the Cape or Madagascar, which Professor Oliver pronounced to be a *Vellozia* (identical with a Natal plant, *Hypoxis barbacenioides*, Harv. MSS.), and the name *V. elegans* was proposed for it.

A specimen, presented by Mr. Fox Talbot to the Edinburgh Botanic Gardens, was next exhibited to the Botanical Society of that city by my friend Professor Balfour, as *Vellozia elegans* (see Proc. Bot. Soc. Edinb., ix. p. 79, Jan. 1867). At a subsequent meeting (*l. c.* p. 189, 13th June), Dr. Balfour again exhibited this plant as *V. Talboti*, or, if it should prove a new genus, *Talbotia elegans.* On a third occasion (*l. c.* p. 192, 11th July), he exhibited it as *Talbotia elegans*, without a generic character, or pointing out its generic differences from *Vellozia.* Meanwhile it appears to have been overlooked that an African (Madagascar) genus of

Velloziæ had already been described by Commerson, under the name of *Xerophyta*, and figured in Lamarck's Encyclopædia, t. ccxxv. Commerson's plant agrees with *V. elegans* in the principal character by which I find *V. elegans* to differ from its Brazilian congeners (the cylindric stigma), whilst it differs from *V. elegans* in another character which is common to the Brazilian species—viz., the length of the filaments. As, however, *Xerophyta* is reduced by Endlicher to *Vellozia*, it appears clear that *Talbotia* should go with it, and that Professor Oliver's original name of *V. elegans* should be retained for this plant. Another character by which *V. elegans* differs from the Brazilian species, is the terete not angled seeds; but as the structure of the seed, testa, raphe, and funicle are otherwise identical with those of the only Brazilian species which I have examined, this character is unavailable.

The specimen here figured was communicated from the Botanical Gardens of Edinburgh, and flowered in those of Kew in May of the present year.

Descr. Glabrous. *Stem* rigid, flexuous, six inches high, simple, leafy above, below densely covered with the fibrous remains of the leaves. *Leaves* tristichous, recurved, four to eight inches long, linear-lanceolate, sharply keeled, acuminate, serrated towards the apex, base sheathing; nerves close-set. *Peduncle* terminal, sheathed at the base, divided into three to five slender pedicels two to six inches long. *Flower* pale lilac in bud, then pure white, one and a quarter inches diameter, ebracteate. *Perianth* segments spreading, ovate, subacute, three outer rather smaller; all enlarging and turning green after flowering. *Stamens* six, erect; anther subsessile, linear, obtuse. *Ovary* obovoid, triquetrous three-celled; ovules many, on two thick placentas in each cell; style as long as the stamens; stigma cylindric, thickened, obtuse, six-furrowed. *Capsule* obovoid, sharply three-angled, half an inch long, many-seeded; septa and walls breaking away from the three persistent angles. *Seeds* narrow, terete, curved; funicle thickened, and raphe conspicuous.—*J. D. H.*

Fig. 1, Flower with the perianth removed; fig. 2, stamen; fig. 3, stigma; fig. 4, transverse section of ovary:—all *magnified*.



W. Fitch. del. et lith

Vincent Brooks Day & Son. Imp

Tab. 5804.

CALOCHORTUS UNIFLORUS.

Single-flowered Calochortus.

Nat. Ord. Liliaceæ.—Hexandria Monogynia.

Gen. Char.—*Perigonium* corollinum, deciduum, hexaphyllum; foliola sessilia v. subunguiculata, supra basim fovea nectarifera; exteriora minora, omnia v. interiora tantum intus barbata. *Stamina* 6, perigonii foliolis basi adhærentia. *Ovarium* triloculare; stigmata 3, subsessilia, libera v. basi coalita, reflexa, canaliculata; ovula in loculis plurima, biseriata, horizontalia, anatropa. *Capsula* subgloboso-trigona, trilocularis, septicido-trivalvis, valvis demum bifidis. *Semina* in loculis plurima, subuniseriata, horizontalia, compressiuscula; testa fusca, membranacea, laxiuscula, hinc raphe percursa; embryo rectus, teres, excentricus. Herbæ *in* America boreali *occidentali, et in terris mexicanis indigenæ, bulbosæ, simplices. Folia ensiformia vaginantia Flores speciosi solitarii umbellati v. racemosi, purpurei v. albidi. Endl.*

Calochortus *uniflorus;* parvula, folio radicali anguste elongato-lanceolato marginibus recurvis, scapo gracili 1–3-floro, sepalis anguste oblongis acuminatis, petalis late obovato-cuneatis apice obscure erosis basi barbatis et squama nectarifera transversa notatis, antheris cœruleis obtusis, stylo distincto.

Calochortus uniflorus, *Hook. and Arn. Bot. Beech.* p. 398, tab. 94; *Alphonso Wood in Proc. Soc. Nat. Sc. Philadelph.* 1868, p. 168.

Cyclobothra uniflora, *Kunth. Enum.* v. iv. p. 669.

For this most lovely little Liliaceous plant, the Royal Gardens are indebted to Dr. Bolander, of San Francisco, California, an eminent botanical explorer, who sent it under the unpublished name of *C. lilacinus*. It is a native of the high plains of Santa Cruz, according to Mr. A. Wood, who has monographed the Oregon and Californian Liliaceæ in the Proceedings of the Philadelphia Academy; and though called *uniflorus*, the flowers are usually more than two. It flowered in the Royal Gardens in June of the present year.

Descr. *Bulb* small, ovoid, half an inch long, clothed with

a thin shining membrane. *Radical leaf* sheathing at the base; sheath slender; *blade* four to six inches long, very narrow-lanceolate, acuminate, one-fourth to one-third of an inch broad, with many slender nerves, margin revolute. *Stem* or *scape* five to eight inches high, slender, few-leaved, one or more flowered. *Flowers* on slender peduncles, one and a half inches in diameter, pinkish white. *Sepals* narrow oblong, acuminate, one-third shorter than the petals, externally veined with pale crimson. *Petals* spreading, obovate-cuneate, membranous, obscurely erose, faintly streaked with pink on the back, hairy towards the base inside, with a transverse nectariferous scale, and a few purple spots. *Stamens* spreading; filaments subulate; anthers linear-oblong, obtuse, bluish. *Ovary* triquetrous; style short, stigmas short obtuse spreading purple.—*J. D. H.*

Fig. 1, Flower with perianth removed; fig. 2, sepal; fig. 3, petal; fig. 4, ovary; fig. 5, the same cut transversely:—*all magnified.*



W. Fitch, del. et lith.

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Tab. 5805.

RHODOTYPUS KERRIOIDES.

Japanese Rhodotypus.

Nat. Ord. Rosaceæ.—Icosandria Digynia.

Gen. Char.—*Calycis* persistentis tubus explanatus, intus villosus; lobi 4, foliacei, argute serrati, imbricati. *Petala* 4, ampla, orbiculata. *Discus* amplus, carnosus, in urceolum 4-dentatum intus sericeum carpella includens constrictus. *Stamina* perplurima, filamentis filiformibus liberis; antheræ late didymo-oblongæ. *Carpella* 4; styli filiformes, exserti, stigmatibus capitellatis; ovula 2, sub apice loculi pendula. *Drupæ* 1-4, pisiformes, epicarpio sicco nitido a sarcocarpio farinaceo secedente, putamine osseo reticulato 1-spermo. *Semina* obovoidea, testa membranacea; cotyledones plano-convexæ; radicula curva, supera.—Frutex Japonicus *ramis decussatis virgatis strictis, gemmis perulatis.* Folia *decussatim opposita, petiolata, ovata, acuminata, argute serrata, subtus sericea.* Stipulæ *liberæ, membranaceæ.* Flores *solitarii, ampli, ramulos terminantes, breviter pedicellati; calyce 4-bracteolato.*

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1. Rhodotypus Kerrioides, *Sieb. and Zucc. Fl. Jap.* p. 187, t. xc. *Regel, Gartenflora,* v. xv. p. 130. t. 505, f. 2 and 3.

A very elegant shrub, and no doubt hardy, a native of Japan, where it is said to grow wild in the mountains of Kiusiu, but which is known only in cultivation; flowering in April and ripening its black fruit in mid-winter. The latter resembles that of a blackberry, except in the fewness and dryness of the drupes. It was introduced first of all into the Imperial Gardens of St. Petersburgh, by M. Maximovicz, the eminent Japanese traveller and botanist, and has since been transmitted to Europe by other parties. The plant here figured flowered in the Temperate House at Kew in May of the present year, from seeds by Mr. Oldham, from Japan.

Descr. A shrub fifteen to twenty feet high, according to the Japanese, but only known to botanists as attaining three to six feet under cultivation. *Branches* twiggy, spreading;

buds oblong, covered with scales. *Leaves* shortly petioled, one-and-a-half to two-and a-half inches long, ovate, acuminate, trebly serrate with glandular teeth, ciliate, glabrous above, silky pubescent beneath, nerves very numerous; stipules subulate, acute. *Flowers* terminal, solitary, one-and-a-half inches diameter; peduncles short, much thickened upwards after flowering. *Calyx* of four broad, ovate, acute, serrate green sepals, subtended by as many short, subulate, alternating bracts. *Petals* nearly orbicular, white; stamens very numerous; filaments slender; anthers small, broad. Disk forming four silky, fleshy lobes, concealing the carpels. *Ovary* of two to four cohering carpels, with slender styles, obtuse stigmas, and two pendulous ovules in each carpel. *Fruit* of two to four single-seeded, subglobose, dry, black, shining drupes. *Seed* pendulous, exalbuminous.—*J. D. H.*

Fig. 1, Disk and styles; fig. 2, stamen; fig. 3, bases of carpels; fig. 4, ripe drupe:—all but fig. 4 *magnified.*

W Fitch, del. et lith.

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Tab. 5806.

IRIS nudicaulis.

Naked-scaped Iris.

Nat. Ord. Irideæ.—Triandria Trigynia.

Gen. Char. (*Vide supra*, Tab. 5298.)

Iris *nudicaulis;* robusta, foliis breviusculis late ensiformibus falcatis caule nudiusculo brevioribus, floribus pedunculatis, spatha herbacea, perigonii lacinis obovato-oblongis subæqualibus exterioribus ungue fimbriato-cristatis ceterum glabris, ovario subtereti, stigmatibus 2-fidis segmentis dentatis, capsula parva obtuse 3-gona.

Iris nudicaulis.—*Lamk. Encycl.*, v. iii. p. 296. *Reichb. Ic. Fl. Germ.* v. ix. p. 4, t. 331. *Ræm. and Schultes*, v. i. p. 463.

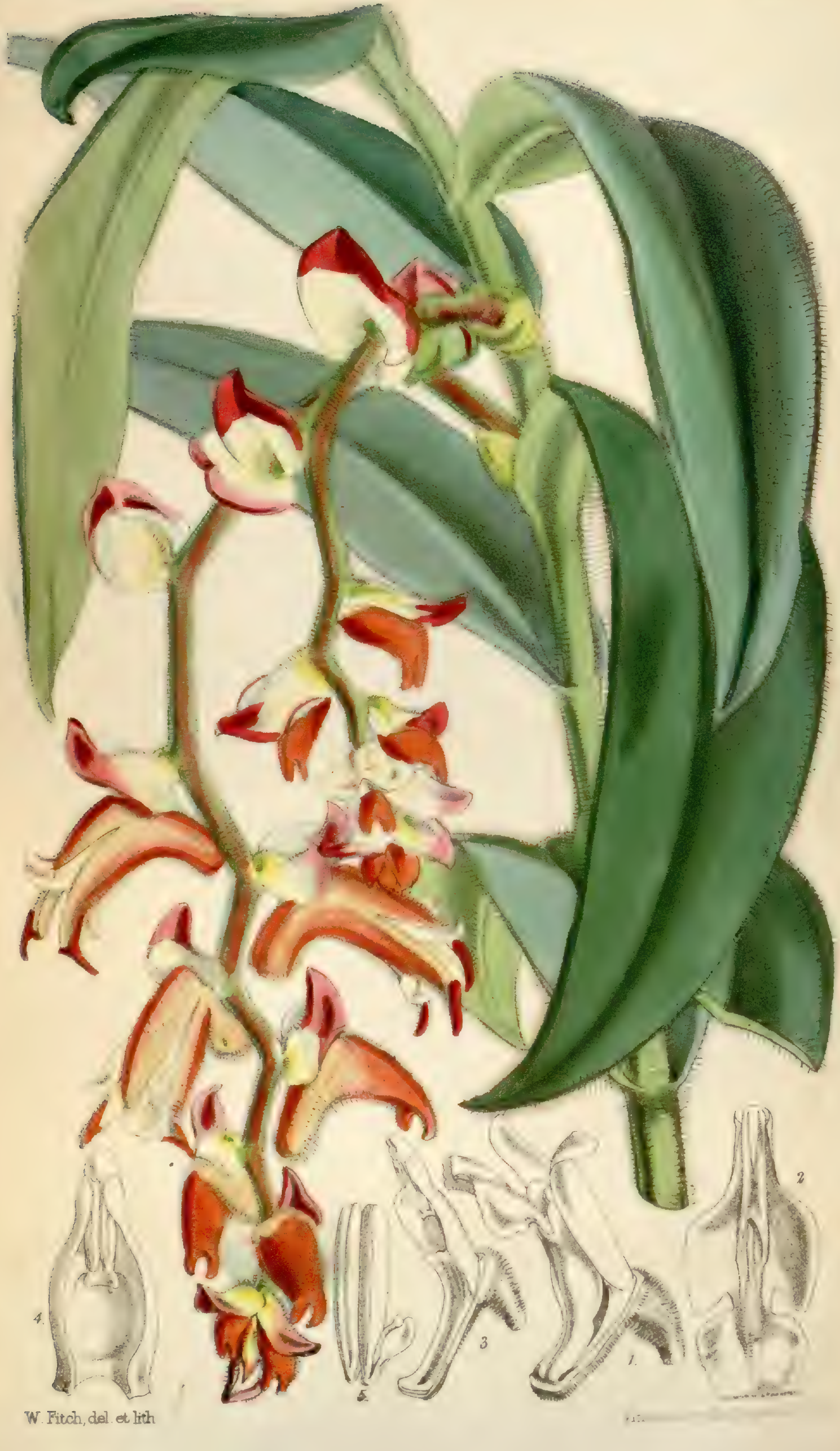
Iris. bohemica, *Schmidt, Bohem. Cent.* v. iv. p. 306. *Koch.*

A very handsome, hardy herbaceous plant; growing in sunny places, and forming large tufts. It is a native of Bohemia, Silesia, and it is said of Volhynia in Russia; but I have seen no specimen from so far East as the latter locality. It is specifically closely allied to *I. Germanica*, and others of that group; but is sufficiently distinct. The Herbarium specimens are much taller than the cultivated ones, and with larger scapes; but these often elongate much after flowering, and greatly exceed the leaves.

The plant here figured, which flowered in April of the present year, has long been cultivated in the Royal Gardens under the above name, and I am unaware of its origin.

Descr. *Rootstocks* matted, as thick as the thumb, ringed, sending up many flowering and leafing stems. *Leaves* six to eight inches long, three-quarters to one inch broad, falcate, linear ensiform, acuminate, pale green, rather thick, nerves obscure. *Flowering scapes* several together from the root, two to ten inches long, two to three-flowered, compressed; bracts one and a half to two inches long, herbaceous, with

membranous margins, oblong-lanceolate, acuminate. *Flowers* sessile or pedicelled, two and a half to three and a half inches across, dark purple. *Perianth* segments nearly equal, obovate-oblong, rounded at the apex; three outer darker; claw banded with white, and bearing a crest of dense long white hairs in the middle; inner segments with narrower claws, less distinctly banded. *Stigmas* oblong, bifid, segments narrow, triangular, acute, toothed. *Capsule* small for the size of the plant, one to one and a quarter inch long, obtusely angled.—*J. D. H.*



W. Fitch, del. et lith

Tab. 5807.

ERIA vestita.

Furred Eria.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 5391.)

Eria (Trichotosia) *vestita;* totus villis deciduis dense vestitus, caulibus suberectis v. pendulis, foliis coriaceis lanceolatis apice obliquis obtusis supra parce subtus densissime villosis, racemis elongatis pendulis multifloris flexuosis, bracteis late ovato-rotundatis amplis coriaceis persistentibus, floribus capsulisque villosis, sepalis rubro-aurantiacis lanceolatis lateralibus in cornu lato obtuso porrecto connatis oblique mucronulatis, petalis albis lineari-oblongis obtusis brevioribus glabris, labelli trilobi auriculis lateralibus elongatis obtusis segmento terminali subrotundato eroso emarginato piloso per axin linea elevata interrupta velutina dentibusque paucis aucto, lamellis inter auriculas angustis approximatis.

Eria vestita, *Lindl. in Bot. Reg.* 1844. *Misc.* 1845, p. 79, tab. 2. *Walp. Ann.* v. vi. p. 284.

Dendrobium vestitum, *Wall. Cat. n.* 2005 (in part); *Lindl. Gen. and Sp.* Orchid. *No.* 33.

This curious orchid is undoubtedly the *Eria vestita* figured by Lindley in the *Botanical Register* for 1845, from Manilla specimens flowered by Loddiges, and which specimens are preserved in his Orchideous Herbarium, now at Kew. It is also in part the *Dendrobium vestitum* of Wallich, who distributed along with this plant another species, which may be *E. vulpina*, Reichb. f., but is more probably different from either.

E. vestita was discovered by Wallich, at Sincapore; Loddiges received it from Manilla, and there are fine specimens in the Hookerian Herbarium from Bangarmassing, in Southern Borneo, whence the species seems to have a very wide range.

December 1st, 1869.

The beautiful specimen here figured was imported by W. Wilson Saunders, Esq., F.R.S., who flowered it in May of the present year, at Reigate.

Descr. Wholly covered with soft villous spreading hairs, most copious on the inflorescence. *Stems* tufted, usually ascending, six to ten inches long, as thick as the little finger at the base, leafy. *Leaves* lanceolate, acute, spreading and recurved, five to seven inches long, one and one-third inches to one and two-third inches broad, hairy on both surfaces, many-nerved. *Racemes* axillary, pendulous, five to six inches long, many-flowered; rachis zigzag, sheathed with short broad imbricate scales at the base; floral bracts large, one-half to one inch long, broadly orbicular-ovate, white, with a broad blood-red margin. *Flowers* sessile. *Ovary* very short. *Perianth* orange-red, curved, an inch long, nearly half an inch diameter. *Sepals* connate, lanceolate, tips abruptly recurved. *Spur* very broad, obtuse, half as long as the sepals. *Petals* linear-oblong, obtuse, white, their tips projecting between the sepals. *Lip* white, basal portion with two long, broad, obtuse auricles; terminal portion nearly as broad, suborbicular, erose; disk of lip with three to five obscure blunt ridges between the auricles, which are continued as a villous prominence on to the disk of the basal portion. *Column* broad below, narrowed upwards, very concave in front. *Anthers* small; pollinia, long, slender.—*J. D. H.*

Fig. 1, flower with the sepals removed; fig. 2, lip; fig. 3, column and half of spur; fig. 4, front view of column; fig. 5, pollinia:—all *magnified.*



W. Fitch, del. et lith.

Vincent Brooks, Day & Son, Imp.

Tab. 5808.

ANDROSACE pubescens.

Downy Androsace.

Nat. Ord. Primulaceæ.—Pentandria Monogynia.

Gen. Char.—*Calyx* quinquefidus v. quinque-dentatus, demum sæpius auctus. *Corolla* infundibuliformis v. hypocraterimorpha, tubo calycem vix superante ovato, apice contracto; fauce fornicibus brevibus instructa. *Stamina* 5, corollæ tubo inserta, ejusdem laciniis opposita, inclusa, filamentis brevissimis; antheræ ovatæ. *Ovarium* uniloculare; placenta basilari globosa, substipitata; stylus filiformis, inclusus, stigmate obtuso v. subgloboso; ovulis 5 v. indefinitis, peltatim amphitropis. *Capsula* unilocularis, apice v. juxta totam longitudinem quinquevalvis. *Semina* 5 v. indefinita, placentæ basilari globosæ liberæ stipitatæ inserta, dorso complanato rugulosa, ventre convexo umbilicata; embryo in axi albuminis carnosi rectus, umbilico parallelus.—Herbæ *in temperatis et frigidis hemisphæræ borealis obviæ, plurimæ alpicolæ, sæpissime cæspitosæ.* Pedunculi *solitarii* v. *umbellati*. Flores *parvi, sæpissime albi v. rosei.*

Androsace *pubescens;* dense cæspitosa, caulibus procumbentibus, foliis confertis patentibus lineari-oblongis oblongo-obovatisve obtusis pilis sæpius furcatis pubescentibus ciliatisque, floribus solitariis albis, pedunculis foliis sæpius brevioribus sub calyce paulo si crassatis, calycis segmentis ovatis obtusis v. subacutis ciliatis.

Androsace pubescens, *De. Fl. Franc.* v. 3, p. 438.

Androsace alpina, *Gaud. Fl. Helvet.* v. 2, p. 107.

A lovely little alpine, belonging to a genus notoriously difficult to keep in cultivation. It is a native of the lofty mountains of Dauphiny, the Pyrenees, and Swiss Alps, at elevations of seven to nine thousand feet, and often occurs near the glaciers, on whose detritus it likes to grow. For the plant here figured I am indebted to Mr. Backhouse, of York, in whose splendid collection of Alpines it appears to flourish. Beautiful as this species is, it cannot compare with the *A. glacialis* of the Tyrolese and Enghedien Alps, which

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carpets the rocks with sheets of the most lovely rose-purple, and is the choicest of all Alpines known to me.

Descr. A small, densely-tufted alpine, forming low mossy patches six inches broad and upwards, much branched; branches one inch long. *Leaves* crowded, rosulate, one-eighth to one-fourth of an inch long, linear-oblong, or oblong-obovate, obtuse, ciliate with forked hairs, and more or less pubescent. *Flowers* excessively numerous, solitary at the ends of the branchlets; peduncles short, slightly swollen at the base of the calyx, nearly glabrous. *Calyx* campanulate, five-lobed to the middle; lobes ovate, obtuse, ciliate, and slightly pubescent. *Corolla* white with a faint yellow eye, one-third of an inch in diameter; tube short, subglobose; lobes obovate, emarginate. *Stamens* included. *Ovary* subglobose, stigma capitate.—*J. D. H.*

Fig. 1, leaf; fig. 2, flower; fig. 3, corolla laid open: fig. 4, calyx; fig. 5, ovary:—all *magnified.*



W Fitch, del et lith

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TAB. 5809.

BLANDFORDIA AUREA.

Golden-flowered Blandfordia.

Nat. Ord. LILIACEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 5734.)

BLANDFORDIA *aurea*; foliis angustis $\frac{1}{8}$–$\frac{1}{6}$ poll. latis acute carinatis, marginibus scaberulis, scapo gracili paucifloro, bracteis pedicellis multo brevioribus setaceo-lanceolatis, perianthio campanulato aureo, segmentis 3 exterioribus apice viridibus.

Of the beautiful Australian genus *Blandfordia*, five species are now in cultivation, differing chiefly in robustness, in the breadth, and smooth, or serrulate margin of the leaf, in the length of the bracts, form of the inflorescence, and colour of the flower. To these must now be added a sixth in the present plant, a native of New South Wales, and imported by Messrs. Veitch and Sons, with whom it flowered in July of the present year. Specifically, it is very nearly related to the original *B. nobilis*, Br. of Port Jackson, and may prove to be a variety of it; but it differs from all our wild specimens of that species, in the larger more campanulate flower, and from the figures in the colour of the flower. The Blandfordias all grow in wet, peaty soil, and in hilly parts of country, extending from Tasmania to Queensland, and are absent in the Western and Northern half of the Australian continent.

DESCR. *Root* of stout fleshy fibres. *Leaves* numerous, distichous, rigid, grass-like, very narrow, linear, eight to twelve inches long, one-eighth to one-sixth inch broad, gradually narrowed to a very slender point, dark green, and deeply channelled above, paler, striate, and acutely keeled below, margins

scabrid. *Scape* one foot to one and a-half feet high, very slender, cylindric, with few subulate lanceolate sessile bracts. *Flowers* three to five, subumbellate, nearly horizontal. *Pedicels* one inch and a-half to two inches long, green below, yellow above, bracts much shorter than the pedicels, subulate, green. *Perianth* one inch and a-half long, and nearly as broad at the mouth, campanulate, slightly contracted above the base, bright golden yellow ; segments nearly half orbicular, obtuse, obscurely three-nerved, bluntly apiculate, the three outer tipped with a green spot. *Stamens* yellow. *Ovary* green, very slender, elongating, and much exceeding the perianth long before maturity.—*J. D. H.*

W. Fitch. del. et lith

Tab. 5810.

GLADIOLUS cruentus.

Blood-red Gladiolus.

Nat. Ord. Irideæ.—Triandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 5427.)

Gladiolus *cruentus;* scapo bipedali, foliis elongato-ensiformibus glaucis, spica disticha, perianthii late campanulati segmentis obovatis emarginatis sanguineo-coccineis, lateralibus saturatioribus zona pallida notatis, tubo gracili spatha acuminata breviore, genitalibus perianthio subæquilongis, stigmatibus gracilibus recurvis.

Gladiolus *cruentus*, *Moore in Gard. Chron.*, 1868, p. 1139.

This very beautiful plant, a native of the Colony of Natal, in South Africa, was flowered by Mr. Bull, at his nurseries in Chelsea, in September, 1868. It is specifically allied to *G. Cardinalis*, which is indigenous in the same district of South Africa, but differs in the much larger flower, colour, and notched perianth segments. The original plants that have hitherto flowered are, we are given to understand, made over to be hybridized, so that in all probability the pure race will soon be lost to cultivators.

Considerably upwards of one hundred species of Gladiolus have been cultivated in Europe, indeed upwards of one hundred and ten reputed species have been figured from living specimens: the greater proportion of these are no doubt lost to cultivation, and probably no horticultural establishment boasts more than a fraction of them: the genus belongs to that immense class of South African and other plants which were the favourites of our forefathers, were suited to the atmosphere of their plant-houses heated by currents of dry air, and the cultivation of which is not understood by the gene-

rality of gardeners of the present day. It is greatly to be desired now that such amateurs as are disposed to leave the beaten track of ordinary greenhouse and stove culture, should take up the culture of these and similar tribes, which would well repay all their care, and advance our knowledge of some of the most interesting and beautiful of our Colonial floras.

Descr. *Scape* two feet to three feet high, stout and erect. *Leaves* bifarious, one to one and a half feet long, three-fourths of an inch to one inch broad, linear-ensiform, gradually acuminate, dark green and glaucous. *Spike* distichous, six inches to ten inches long, rather dense-flowered. *Bracts* narrow-lanceolate, the lowest six inches long, upper gradually shorter, all green and herbaceous, much exceeding the perianth-tube. *Flowers* four inches in diameter, broadly campanulate, brilliant scarlet, yellow-white and speckled with red at the very base of the limb. Perianth-tube one and a-half inch long, white externally; segments obovate, all nearly similar in shape, but the lower three one-third smaller than the upper, all obtuse and rounded at the tip, with a distinct notch, and a prominent point in the sinus; the two lower lateral darker than the others, with a transverse pale band spotted with red about the middle, and a white lanceolate stripe running from it towards the tip. *Filaments* and style scarlet, anthers narrow, two-thirds of an inch long, red-purple; stigmas slender, recurved.—*J. D. H.*

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W. Fitch, del. et lith.

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Tab. 5811.

VANDA Denisoniana.

Lord Londesborough's Vanda.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4432.]

Vanda *Denisoniana;* foliis lorato-ligulatis apice inæqualiter bilobis, racemo valido plurifloro, floribus albis, sepalo dorsali oblongo-spathulato, lateralibus late ovatis subacutis, petalis in laminam spathulatam abrupte dilatatis, labelli auriculis subquadratis, lamina pandurata, segmento terminali 2-lobo, lobis subrotundatis divaricatis, carinis a basi in discum approximatis quinis obtusis, callo parvo emarginato, calcare conico brevi intus velutino.

Vanda Denisoniana; *Benson and Reichenb.* f. in *Gard. Chron.* 1869, p. 528.

This is another of Colonel Benson's remarkable discoveries, communicated to Messrs. Veitch, and flowered by them in April of the present year. It is a native of the same localities as *Dendrobium crystallinum*, affects in the Arracan mountains, growing in sheltered and shady spots on large trees, and is (according to its discoverer) difficult, when out of flower, to distinguish from *V. Bensoni* (Tab. Nost. 5611). Dr. Reichenbach, its describer, indeed, justly compares it with *V. Bensoni* in many points of structure, though differing so remarkably in the breadth and two-lobed lips of the leaves, in the form of the raceme and colour of the flowers. The species was dedicated by its namers to Lady Londesborough, "in appreciation of Lord Londesborough's great and generous love of Orchids." The comparison of the terminal lobe of the lip to a blackcock's tail by Professor Reichenbach is a happy one.

Descr. *Stem* short in the only specimen I have seen. *Leaves* strap-shaped, six to ten inches long, by two-thirds or

three-fourths inch broad, rigid, recurved, deeply bifid at the tip; lobes unequal, subacute, nearly straight, dull green, shining. *Raceme* five inches long, ascending, five to six flowered. *Flowers* two inches diameter, pure white, with a few orange markings at the base of the lip. *Perianth* segments of nearly equal length, with the lip longer, somewhat reflexed. *Dorsal sepal* oblong, spathulate, two lateral much broader, obliquely ovate, subacute. *Petals* spathulate. *Lip* with a two-lobed base, the lobes auricled; callus quadrate, small, two-lobed, with a semi-lunate yellow band, with orange ciliate edges behind it; lamina of the lip nearly as broad as the base, contracted in the middle, with two short diverging terminal lobes, and five ridges on the disk. *Spur* short, obtuse, velvety inside. *Column* short, stout, obtuse.—*J. D. H.*

Fig. 1, Lip.—*magnified.*





W. Fitch, del. et lith.

Vincent Brooks, Day & Son, Imp.

Tab. 5812.

ALOE (GASTERIA) CROUCHERI.

Mr. Croucher's Gasteria.

Nat. Ord. ASPHODELEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 5210.)

ALOE (Gasteria) *Croucheri*; acaulis, foliis patulis elongato-lingulatis mucronatis inæquilateraliter trigonis angulis albo-maculatis cartilagineis denticulatis, supra concavis subtus oblique convexis lævibus maculis ovalibus albis sæpe ocellatis notatis, racemis elongatis late paniculatis multifloris, perianthiis elongatis teretibus curvis medio leviter contractis roseis superne albis viridi striatis, segmentis parvis rotundatis erosis.

This, the handsomest Gasteria of the kind that has hitherto flowered at Kew, is named after the intelligent foreman of the propagating department, Mr. Croucher, under whose care the succulent plants of the Royal Garden are placed, and to whose zeal and especial love for this class of plants the collection owes much of its value and interest. It is closely allied to *A. candicans*, Haworth; but besides differing in colouring of the foliage, in the copiously branched, dense-flowered inflorescence, in the much larger flowers with the tube ventricose, and white with green stripes above the middle, it is in every way a handsomer species. In many respects it resembles even more closely the *A. acinacifolia*, Jacq. (Tab. Nost. 2369), but that has more attenuated leaves, and the supplementary keel of the leaf, which is on the right-hand side of the upper surface of the leaf, in *A. acinacifolia*, is on the left in *A. Croucheri* (on the right in the plate, owing to an oversight in not reversing the drawing when it was transferred to the stone).

I have followed the usual practice in regarding *Gasteria* as a division of *Aloe*, but I suspect that it will prove to be as

good a genus, both in habit and floral characters as most of *Liliaceæ*.

Aloe Croucheri has been long cultivated at Kew; its origin is unknown.

Descr. Stemless. *Leaves* numerous, spreading in all directions and recurved, forming a dense rosette, one foot long by three inches to three and a half inches broad at the base, gradually narrowed upwards to a suddenly rounded tip terminating in a hooked mucro, three-fourths of an inch to one inch in thickness; surface smooth, dark green, covered with oblong whitish spots, which have often a green eye, upper surface broadly channelled, with the supplementary keel on the left (to the right in the plate by an error), margins cartilaginous, spotted with white, minutely toothed. *Scape* including the panicle two feet to two and a half feet high, much branched above. *Racemes* numerous, eight to ten inches long, curving upwards; bracts setaceous. *Flowers* very numerous, pendulous, two inches long, pedicels one half inch long, *Perianth* tubular, cylindric, slightly curved, terete, somewhat contracted in the middle, slightly inflated above and below it; lower half pale rose-coloured; upper half white, with green veins running downwards from each of the short broad erose perianth segments. *Stamens* yellow, slightly exserted.—*J. D. H.*

Fig. 1, Reduced sketch of plant; fig. 2, portion of leaf, and fig. 3, portion of a raceme, both of nat. size;—fig. 4, flower; fig. 5, ovary;—both *magnified*.

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